DOCUMENT RESUME

ED 093 760 SO 007 612

AUTHOR	Persons, Scott; And Others
TITLE	Project Success Environment. Development of the Success Technique: An Overview of Three Years Happenings. Tooner Log: A Blow by Blow Description of Applying Positive Reinforcement. A Positive Contingency Management Program for Elementary Teachers.
INSTITUTION	Atlanta Public Schools, Ga.
SPONS AGENCY	Bureau of Elementary and Secondary Education (DHEW/OE), Washington, D.C.; Georgia State Dept. of Education, Atlanta.
PUB DATE	73
NOTE	136p.; For a related document, see ED 057 145
EDRS PRICE	MF-$0.75 HC-$6.60 PLUS POSTAGE
DESCRIPTORS	Academic Achievement; *Behavior Change; Classroom Arrangement; Curriculum Development; Diffusion; Educational Change; *Educational Environment; *Educationally Disadvantaged; Elementary Education; Evaluation; Experimental Programs; Guidelines; Individual Needs; *Positive Reinforcement; Program Descriptions; *Success Factors
IDENTIFIERS	*Contingency Management; Elementary Secondary Education Act Title III; ESEA Title III; Project Success Environment

ABSTRACT

Three documents describe the Project Success Environment Program, which was funded to help alleviate behavioral and academic problems of children from urban, low-socio-economic backgrounds by providing them with an opportunity to experience success in school. The program, sponsored by the Atlanta Public Schools, consisted of: (1) a positive contingency management system designed to deliver a high rate of reinforcement for appropriate social and academic behaviors, (2) a classroom arrangement designed to foster small group and individualized teaching, and (3) some revision of the standard curriculum. The three-part program, referred to as the "success technique," was tested in 44 classrooms over the three year period and resulted in dramatic improvement in classroom management and substantial achievement gains. A detailed summary of the project is presented in "An Overview of Three Years Happenings," which chronologically reviews project developments and changes as well as initial efforts to spread the technique to other schools. The "Tooner Log: A Blow By Blow Description of Applying Positive Reinforcement" presents a condensed version of the practical difficulties and day-to-day implementation procedures. A third document, "A Positive Contingency Management Program for Elementary Teachers," describes the method and results of the program's third year. (Author/KSM)

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DEVELOPMENT OF THE SUCCESS TECHNIQUE: AN OVERVIEW OF THREE YEARS HAPPENINGS

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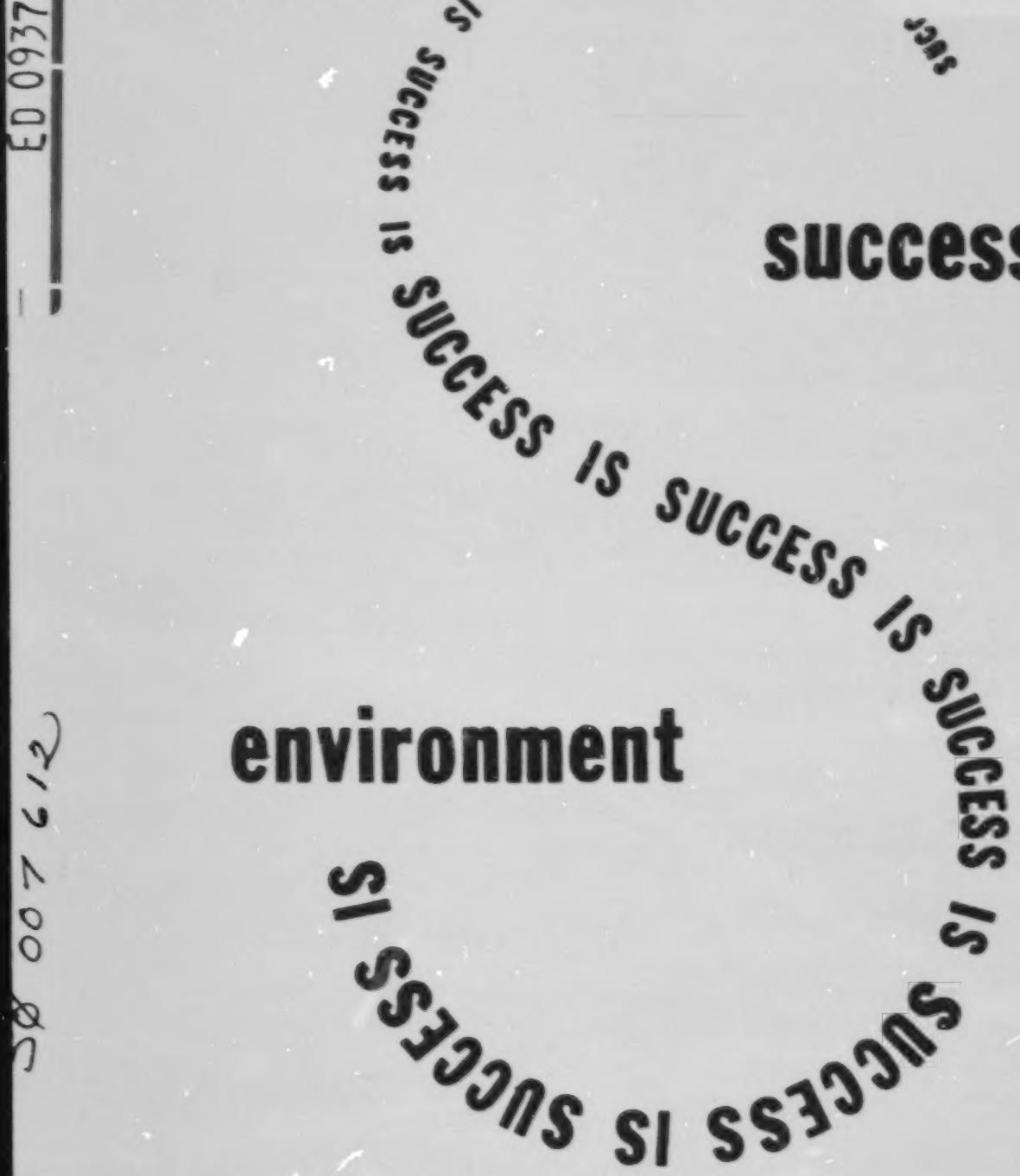
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ATLANTA PUBLIC SCHOOLS
Division of Instructional Services

Development of the SUCCESS Technique: An overview of three years happenings

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The Research reported herein was performed pursuant to a grant from the Georgia Department of Education under the provisions of the U. S. Public Law 89-10, Title III, Elementary and Secondary Education Act of 1965 as amended.

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TABLE OF CONTENTS

PREFACE 1

INTRODUCTION 3

DEVELOPMENT OF THE SUCCESS TECHNIQUE 6

Year I 7

Year II 9

Year III 12

Summary: Years I - III 14

EXPORTATION 16

The Toomer Effort: Cost-Effective Teacher Training 17

The Toomer Log 18

Replication and Revision of the Toomer Exportation Model 19

Training Package for Principals 20

Behavior Management Check List 20

Exportation Cost Estimate 21

PREFACE

Though Project Success Environment has regularly published completed reports describing all facets of the program in great detail, the project has published no document designed to condense the achievements of the project into an easily assimilatable form. The three-year review of the project is designed to remedy this gap.

The three-year review consists of a brief introduction and two major sections. The first section is a chronological review of the project's development and the changes that took place in project classes. Viewed in retrospect, Year I appears to be a tentative step toward the success technique. In the illumination of hindsight, the project director describes Year I activities as "the blind leading the blind...backwards." Classroom behavior was improved, but no other truly significant results occurred. Using this first year's experience as a base, the success technique was refined to produce the dramatic results obtained during Year II. Year III essentially replicated Year II with additional, rather minor improvements.

The second section reviews the initial efforts to develop procedures for spreading the technique to other schools. By the middle of the project's second year of operation, the project staff was convinced that the success technique was operating effectively in the classrooms of the research base, and there was a growing fund of data that supported this conviction. However, a great deal of time and money had been and were being expended to

develop and implement the technique in these classrooms and make it work there. The crucial question remained as to whether the technique could be exported to other classrooms in other schools at a reasonable cost and be as effective there as it was in classrooms of the research base.

In the latter half of Year II, the project staff began to develop and evaluate means for exporting the success technique to other elementary schools in Atlanta and eventually to schools throughout Georgia. Cost-effective exportation required that a low-cost teacher training program be developed and that a plan be devised whereby the local school principal would be able to implement and administer the ongoing operation of the success technique. By the end of Year III a plan for exportation had been devised and tested. The project's fourth year of operation will be devoted to exporting the success technique to interested elementary schools in Atlanta and throughout the state of Georgia, but that is another story.

INTRODUCTION

Children from low socio-economic backgrounds, both black and white, are failing to gain an adequate education in the nation's inner-city schools. In fact, the educational achievement of these children has been repeatedly documented as dismal. As a group, they fall further and further behind their economically advantaged suburban peers with each year of schooling.

Our public schools are designed to build successively year after year upon skills acquired by children in previous years. If at any point the child has not acquired the appropriate prerequisite skills, failure is likely. For inner-city children such failure often occurs early since they typically enter school poorly prepared to handle both the standard public school curriculum and the middle class format of the classroom. Further, a history of failure may promote expectations of failure which in turn make actual failure more likely. Thus, inner-city children are forever behind, confused, and as a consequence probably lose all interest in understanding new academic tasks. As a result, inner-city classrooms are filled with unhappy, restless children who are relatively uninvolved in academic work and often are highly disruptive.

Project Success Environment: An Approach to Community Educational Improvement was funded to help alleviate these behavioral and academic problems by providing students with the opportunity to experience, on an individual basis, success in school. The program that was developed during the three years of project funding consists of (1) a positive contingency management system designed to deliver a high rate of reinforcement (and

thus success) for appropriate social and academic behaviors, (2) a classroom arrangement designed to foster small group and individualized teaching, and (3) some revision of the standard curriculum. This three-part program, usually referred to herein as the "success technique," has been extensively tested in forty-four classrooms over the project's three years of operation. The results showed that during this time dramatic improvements in classroom management were consistently obtained. In addition, each successive year of the project's operation resulted in more substantial gains being made in achievement. Indeed, the very strong effects obtained in Year III indicated that many of the problems associated with inner-city teaching have been eliminated or greatly reduced in project classrooms.

Often, innovative programs have produced effective outcomes but then failed because they were either (a) too costly, (b) impractical for implementation in most schools, or (c) because no effective plan was developed for exporting the program. In most applications of contingency management (behavior modification) in school settings, a specialist trains a single teacher and is then continually available to provide feedback and to suggest changes in the program when failures occur. Clearly, time and expense prohibit the training of large numbers of teachers in this fashion. On the other hand, programs designed for group training in contingency management usually train teachers in isolation from the context in which they teach. Once trained, the teachers are expected to return to their schools, develop a program suiting their particular setting, implement the program, and assess its effectiveness with little assistance. This approach leads to many failures and to backsliding even when effective programs are developed.

Project Success Environment has found viable solutions to the problems of cost-effective teacher training and exportation. The project has developed a four-day teacher training workshop. The workshop provides teachers with an understanding of the theory behind the success technique, practicum experiences using the technique in a classroom with students, and a series of checklists that serve as guidelines for implementing the program. Moreover, in order to export the technique to other schools and to guarantee that the program survives there beyond the first few months of implementation, the project has developed the "principal training model". Essentially, a principal and two of his teachers are first trained by the project staff to apply the technique themselves, and then they are trained both to conduct a four-day workshop in their own school and also to administer and oversee the implementation of the technique on a day-to-day basis.

What follows is a detailed summary of the project's efforts over three years of funding to develop and evaluate the success technique and to solve the problems of cost-effective teacher training and exportation.

DEVELOPMENT OF THE SUCCESS TECHNIQUE

A review of the results from
three years of implementation

Project Success Environment has developed an effective program that alleviates many of the behavioral and academic problems normally associated with inner-city education. This program applies positive contingency management in the classroom to minimize student failure and maximize student success. Positive contingency management, or more simply the success technique, is essentially a token economy, behavior modification program that delivers a high rate of reinforcement for appropriate social and academic behaviors. A detailed description of the program as implemented during Years II and III is contained in the End-of-Budget Period Report FY 73.

The effects of the success technique on both pupils and teachers were evaluated during each year of the project's funding. Three types of data were collected: pupil and teacher behavior as recorded during in-class observations; performance of pupils on academic aptitude and achievement testing; and pupil performance on several psychological tests. Data collected in project classrooms were compared to data collected in appropriate comparison classrooms. Results for each of the project's three years of operation are summarized below.

Year I

A detailed description of the program and the results of its implementation during Year I are presented in the End-of-Budget Period Report, Fiscal Year 1971. In-class observational data[1] collected during Year I indicated that the project teachers minimized failure experiences and maximized success experiences in their classrooms.

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[1] Trained observers visited each project class regularly before and after implementation of the success technique to count the number of reinforcements and punishments administered by the teacher in a fifteen minute interval. The observer also counted the number of times students were disruptive (bothered other students in class) and the percentage of students involved in assigned activities. A complete description of the observational procedure is given in each year end report.

On the average, the project teachers rewarded their pupils eight to ten times for each punishment experience. In contrast, the control pupils received an average of only two to three rewards per punishment.

Observation of pupil behavior revealed that the success technique effectively increased attention to assigned academic tasks and reduced disruptive behavior in the classroom. From September to April, the project pupils exhibited a dramatic rise in academic involvement as compared to a decline shown by control pupils. By April, the attention level of the project pupils was more than 90 per cent on-task as contrasted with the approximate 77 per cent level exhibited by the control pupils. In addition, project pupils were less than one-half as disruptive as control pupils at every comparison point. Data from official school records also showed that the success technique had a beneficial effect on pupil attendance and tardiness at the elementary level, although there was no effect among middle school students.

The effect of the success technique on academic achievement was assessed by means of the Metropolitan Achievement Tests (MAT), which was administered to project and control pupils on a pretest-posttest basis. The results of the achievement testing were inconclusive in Year I. Only in the third grade did project students consistently make greater gains than controls on both the reading and math subtests. One encouraging result was that the primary grades (first, second, and third) scored above grade level on the Sullivan Programmed Reading materials. The seventh grade, however, showed limited academic gain on both the MAT and the Sullivan materials.

Because IQ scores were intended only for purposes of statistical control, a standardized academic aptitude test was administered to all pupils during the pretest period but not during the posttest period. However, posttest scores, for the third grade only, were obtained from the Atlanta City-Wide Testing Service which routinely tested this grade during the posttest period. The IQ scores of these project pupils climbed some 14 points during the school year, shifting from well below average to almost precisely the national average. In contrast, the scores of the control pupils increased only 8 points. Thus, there was a strong suggestion that the experimental treatment might serve to elevate academic aptitude.

Several psychological tests were given in order to measure changes in self-esteem, attitude toward school, and locus of control. Only the third grade project students gained more in self-esteem than the control group. There was some evidence that the project pupils were more willing to accept responsibility for their success in school. There was no change in their attitude toward school.

Year II

First year results indicated that the success technique was sufficiently developed to provide inner-city teachers with a usable classroom management system but not, as yet, an effective program for the acceleration of academic performance. In the second year, the success technique was refined in order to (a) improve the classroom management system, (b) produce accelerated academic performance, and (c) reduce the cost of the system to maximize its economic feasibility. The major changes for Year II were (a) the elimination of full-time

paraprofessional help for each class and (b) a shift within the first six weeks of school from the reinforcement of conduct behaviors to reinforcement of academic behavior. In addition, costly, tangible reinforcers were phased out of the reinforcement system within the first six weeks of school.

A detailed description of the program and the results of its implementation during Year II are presented in the End-of-Budget Period Report, Fiscal Year, 1972. In summary, the observation data for Year II again indicated that the project pupils were exposed to significantly more positive reinforcement than their counterparts in the control classes. Although the rate of punishment was relatively low in both project and control classes, incidences of punishment in the project classes were almost nonexistent, and less than one-third the rate in control classes.

The observational data also indicated that the project pupils were significantly less disruptive in class than control pupils in both the elementary and middle schools. In addition, the level of disruption in the project classes declined significantly over the school year. During the first week of school there were, on the average, almost two incidences of disruption in the control classes for each incident in the project classes. By the last two weeks in school, there were 12 incidences of disruption in the control classes for each incident in the project classes.

The project pupils also devoted significantly more time to assigned academic materials during the observational periods. For the most part, the attention level in the project classes increased during the first

few weeks of school and remained at a high level thereafter. The attention level for the control classes was relatively low throughout the school year. During the first week of school, the elementary project pupils were on-task, an average of 71 per cent of the time as contrasted with the elementary control pupils who were on-task 59.2 per cent of the time. In the middle school, the project and control pupils were on-task 78.4 per cent and 61.5 per cent of the time respectively. After the first week there was an increase in on-task behavior in the project classes, which gradually stabilized at approximately 90 per cent in both the elementary and middle schools. In contrast, the on-task behavior in the control classes continued to be a good deal lower and more erratic, ranging from a high of 68 to a low of 48 per cent.

Because there was some indication during Year I that the success technique may serve to elevate academic aptitude (IQ), appropriate levels of the California Test of Mental Maturity were administered to all project and control pupils in September and May of Year II. The results of this testing indicated that the success technique indeed had a beneficial effect upon academic aptitude. The project pupils at five of the six grade levels under consideration gained more in tested IQ than their control counterparts, with statistically significant gains at four of the six grade levels.

During Year II academic achievement in the areas of reading and arithmetic was measured by means of the California Achievement Tests, which were administered to all project and control classes in September and in April. The project pupils made greater gains on all the reading subtests at all grade levels except one (Reading Vocabulary, fourth grade). Two of the three gains in grades two and three, and all the gains in grades

six and eight were statistically significant. At the fourth grade level, gains on two of the three subtests were in the right direction but did not reach statistical significance. The CAT was administered to the first grade project and control pupils as a posttest in April. The first grade project pupils scored significantly higher than controls on all the reading subtests.

In arithmetic, project pupils made greater gains at the second, third, sixth, and eighth grade levels on all the arithmetic subtests. Two of these gains at the sixth and eighth grade levels were statistically significant. When given the CAT as a posttest in April, first grade project pupils scored significantly higher on all arithmetic subtests than did first grade control pupils.

During the seven month pretest-posttest interval of Year II, project pupils gained an average of 6.9 months on the CAT composite total reading score compared to the 3.4 months gained by controls. On the CAT total arithmetic score project pupils gained 6.5 months compared to the 3.9 months gained by controls.

The psychological tests administered during Year II indicate that project pupils became more positive in their attitude toward school between September and May. Project pupils were more willing to accept responsibility for their academic failures than controls. On the other hand, project and control pupils did not differ in their self-esteem or in the social desirability of their responding.

Year III

The success technique used during Year III was essentially the same as for Year II. Thus, Year III replicated the program for Year II. However, an effort was made in Year III to determine if the program would

remain effective when the frequency of in-class observations was reduced. Clearly, the technique is not practical if teachers must be monitored on a bi-weekly basis. Consequently, during Year III in-class observations were made only twice monthly. In addition, the project staff wished to determine if newly trained, and therefore, inexperienced teachers could apply the technique as effectively as experienced teachers. The results of implementation for Year III including the answers to the above questions are presented in detail in the End-of-Budget Period Report FY 1973.

Pupil behavior during Year III was as good as pupil behavior for Year II, especially during the latter half of the year; although teacher behavior was not as good during Year III, possibly because observations were less frequent. Project teachers reinforced only one-half as often in Year III, but they continued to reinforce at a much higher rate than they punished and the reduction in reinforcement frequency did not cause a deterioration in pupil behavior from Year II to Year III. These results suggested that the absolute number of in-class observations may be substantially reduced without adversely affecting the effectiveness of the success technique.

The behavior of teachers and pupils in classes with experienced teachers (at least one year in the project) was compared to teacher and pupil behavior in classes with inexperienced teachers. The experienced and inexperienced teachers differed little in their delivery of reinforcement and punishment.

Pupils in classes of inexperienced teachers at the elementary level did as well as, or better than pupils in experienced teachers' classes on both disruptions and per cent involved. On the other hand, at the middle level, pupils in classes of experienced teachers clearly out

performed pupils in the classes of inexperienced teachers. Older children with several years of failure experience in school are, no doubt, likely to be more resistant to the new environment provided by the success technique. Thus, inexperienced teachers at the middle school level may require more time to learn to effectively apply the program.

The success technique accelerated academic achievement again during Year III. Project pupils gained significantly more in both reading and arithmetic than a comparable group of control pupils gained over the same period of time. In addition, project pupils were also successful in achieving at least one month's gain in both reading and arithmetic for each month that they participated in the project. During the pretest-posttest interval of Year III, project pupils gained 7.0 months in reading compared to the 4.6 months gained by controls. In arithmetic achievement, project pupils gained 7.3 months while controls gained only 5.3 months. Thus, the findings related to academic achievement in Year III replicated the findings of Year II.

Summary: Years I - III

Consistently, over the three-year period, it was found that the success technique had a beneficial effect on both pupil and teacher behavior. Systematic in-class observations revealed that project teachers reinforced their pupils more and punished them less than a comparable group of control teachers. Thus, the teachers maximized their pupils' success experiences while minimizing their failure experiences. In-class observational data also showed that project pupils spent more time on assigned academic tasks and exhibited fewer disruptions than control pupils.

Pupil behavior did not decline when in-class observations were made less frequently, although teachers tended not to reinforce quite as much when fewer observations were made. In addition, there was no difference in the behavior of experienced versus inexperienced teachers or in the behavior of their students.

Thus, from the early stages of the program's operation the results gained from in-class observation have clearly indicated that teachers can be effectively trained to provide reinforcement for their pupils while minimizing punishment, and that pupils, in turn, respond very rapidly by causing fewer classroom disruptions and by spending substantially greater amounts of their time on assigned academic tasks.

The results of achievement testing have indicated that the success technique is effective in accelerating academic achievement. However, to get strong results, reinforcement for academic achievement should begin early in the school year, as soon as the classroom control has been established. Substantial gains in academic achievement were found at both the elementary and middle school level. In addition, it was shown that inner-city pupils could consistently gain one month in reading and one month in arithmetic for each month that they were in school.

The results from a standardized IQ test indicated that the success technique tends to promote academic aptitude. Performance on psychological tests was more variable. However, there was evidence that project pupils improved in their attitude toward school and that project pupils came to accept more responsibility for academic success and failure. No substantial changes in self-concept were found.

EXPORTATION

A summary of the project's initial efforts to propagate itself

Between January of Year II and August of Year III, successive steps were taken toward developing means for exporting the success technique. Those steps are reviewed below:

The Toomer Effort: Cost-Effective Teacher Training

In January, 1972, the project received a request from the principal of Fred A. Toomer Elementary School to train the school's entire faculty in the use of the success technique. The project accepted the request and decided that training would center on preparing the Toomer teachers to reduce student disruption and increase attention using the success technique. Student disruption was a growing concern at Toomer and this emphasis was readily agreed to by the Toomer faculty.

The project staff wanted to know if, in a brief period of time, they could train the entire faculty of Toomer to use the success technique effectively. To this end a training program requiring four half-day sessions was developed that included instruction in the theory behind the success technique and practicum experience in the use of the technique. The staff also wanted to know if the technique's effectiveness could be maintained with limited assistance and at reasonable cost. In the original project classes, in-class observation had shown that project teachers reinforce more and punish less than comparison teachers using traditional teaching methods and that project pupils disrupt the class much less often and spend a greater percentage of time on task than pupils in comparison classes. At Toomer, the project staff looked for changes to occur on these same four measures — teacher reinforcement, teacher punishment, student disruption, and student attention to task. An initial set of classroom observations was made in January before

training began and a second set of observations was made in March after training had been completed and the success technique had been operable for a month.

The results of these observations showed that, after the brief workshop on the success technique, the Toomer teachers reinforced more and punished less. More importantly, their students were disruptive much less often than they had been before implementation of the success technique and student attention to assigned academic tasks increased significantly so that the average child at Toomer was attentive approximately 85 per cent of the time.

The level of teacher and student behaviors at Toomer after implementation of the technique was slightly below the level of behavior in full-time project classes; but, considering the minimal time and money expended at Toomer, these results were encouraging and suggested that cost-effective exportation of the success technique was not only a desirable but also a feasible undertaking. (The results are reported in detail in Appendix D of The End-of-Budget Period Report FY 1972.)

The Toomer Log

The Toomer effort was undertaken not only to answer formal research questions but also to gain first-hand knowledge of the practical day-to-day problems, including cost, involved in introducing and maintaining the success technique throughout an entire school.

As significant events occurred at Toomer, they were entered in a daily log. This log, edited and condensed, has been reproduced for dissemination to those readers, particularly school personnel, who are interested in and concerned about the practical difficulties and day-to-

day procedures involved in implementing a positive contingency management program in a total school setting. A copy of the Toomer Log is now available in a separate binding.

Application and Revision of the Toomer Exportation Model

In the late Spring of 1972, the project staff grew concerned that the positive effects of the technique at Toomer, which had become obvious almost immediately in February, were weakening. There were no data to confirm or deny this concern, but the concensus of opinion was that, after the staff had pulled out of Toomer completely in the Spring, the reinforcement systems were not administered as well as needed. Thus, the project staff proposed to study during the 1972-73 school year, a revised exportation model in which the principal would be thoroughly trained in positive contingency management and clearly responsible for administration of the reinforcement systems. Moreover, the efficacy of this model would be assessed not only soon after the introduction of the success technique but also many months later.

To carry out this study, Grant Park Elementary School was selected as the exportation site. In May, 1972, eight volunteer teachers at Grant Park were observed in order to obtain baseline data regarding their habits of reinforcement and punishment along with their students' habits of disruption and attention. The Grant Park faculty underwent brief but intensive training in the success technique in August, 1972. Data on the same sample of teachers were obtained in October, 1972, one month after the technique was implemented, and again in May, 1973, after the technique had been operational for eight months.

The revised exportation model, with the principal responsible for overseeing implementation on an ongoing basis, yielded encouraging results at Grant Park. By and large, the short-term improvements in behavior that occurred at Toomer were replicated at Grant Park and extended over an eight-month period. A complete report of the study is presented in the End-of-Budget Period Report FY 1973.

Training Package for Principals

To facilitate exportation, a training package was written for principals who wish to prepare their faculties to implement the success technique. The contents are based on the project's three years of experience training teachers to apply the success technique and, in particular, on the knowledge gained exporting the technique to Toomer and Grant Park. The Project Success Environment: Training Package for Principals is a detailed guide for training teachers in the theory behind the success technique and for preparing the teacher to implement the technique in their own classrooms. The package is given to an interested principal only after he, accompanied by two or three members of his faculty, has completed a four-day workshop conducted by the Project. Using the package, the principal can return to this school, train his teachers, and oversee implementation of a positive contingency management program.

Behavior Management Check List

Based on three years' experience observing teachers and giving them immediate feedback on their use of the success technique, the project staff has developed the Behavior Management Check List. This instrument is included in the training package to help the principal in a consumer

school determine for himself how well each of his teachers is implementing the success technique. The items of the check list describe specific observable behaviors that a success teacher must perform consistently in order to properly utilize positive contingency management. Using the check list, a principal can observe and give essential feedback to a teacher in approximately 20 minutes.

Exportation Cost Estimate

The exportation model, using the principal as trainer and overseer, entails a reasonable cost to the consumer school. Based on the experience with proliferation at Toomer and Grant Park, the project has estimated both the maximum and the minimum cost per pupil of implementing and maintaining the success technique in a typical elementary school containing approximately 400 pupils. The estimates, with expenditures broken down in detail are available from the project on request.

More information about the project may be obtained from articles that have been published recently in the professional literature. They are as follows:

Roberts, Ann M., Ferrell, A. Three Georgia Projects Named Outstanding In Nation, Georgia Alert, 1973, Volume 6 Number 4, 3-5.

Rollins, H., McCandless, B. R., Thompson, M. and Brassell, W. R. Project Success Environment: An extended application of contingency management in inner-city schools. Journal of Educational Psychology, in press.

Sapp, Anne C. Project Success Environment: Positive teaching reaps positive results. Georgia Educator, January 1974, 36-38

Sapp, Anne C. Succeeding with Success Environment. American Education, November 1973, 4-10.

Sapp, Anne C. Succeeding with Success Environment, Condensed from American Education, IX (November 1973), 4-10. The Education Digest, January 1974, 21-24.

Thompson, Marion, Brassell, W., Persons, S., Tucker, R., Rollins, H. Contingency Management in the Schools: How Often and How Well Does It Work? American Educational Research Journal, Winter 1974, Vol. 11 Number 1, 19-28.

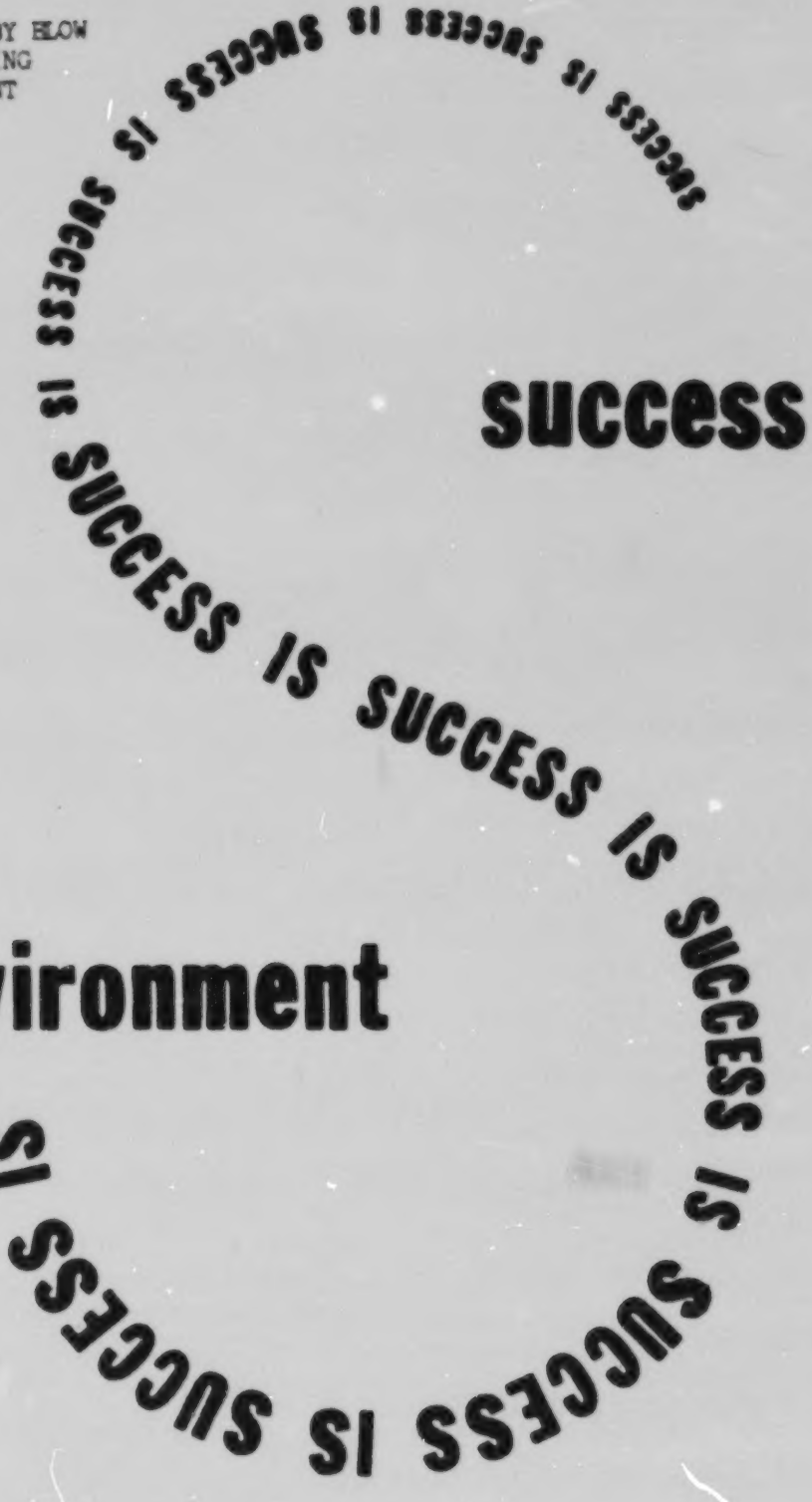
Thompson, Marion. Project Success Environment: Classrooms Without Failure. The Title III Quarterly, Spring 1973, 13-15.

The project has produced several publications that further explain and document the experiences and history of the development of the Success Technique. A complete list is available from the project office. Two of these provide extensive reviews of the data as well as more detailed narratives. They are as follows:

Project Success Environment: A Positive Contingency Management Program for Elementary Teachers

Project Success Environment: A Responsive Learning Environment for Inner-City Pupils

TOOMER LOG: A BLOW BY BLOW DESCRIPTION OF APPLYING POSITIVE REINFORCEMENT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Project Success Environment
892 Vedado Way, NE
Atlanta, Georgia 30308

Second Printing
November 1973

TABLE OF CONTENTS

Introduction..... 3
Planning Meetings..... 6
Baseline Measurement..... 7
Training..... 7
Day One Minus One..... 10
Day One..... 11
Renewing Commitments..... 11
Reflections on Training Ommissions..... 12
Faculty Meeting..... 12
Procedure Change in Activity Room..... 12
Inservice Feedback..... 13
Aides Aiding Aides..... 13
Planning Day..... 13
Substitute Teachers..... 15
Card Costs..... 15
Parent Involvement..... 16
Afternoon Regression..... 16
Post ICO..... 17
Afternoon Regression Revisited..... 18
Spring Fever..... 18
Continued Participation at Toomer..... 19
Addendum - Role of Advisor at Toomer..... 20
Addendum - Cost Breakdown..... 20
Appendix A - Research Objectives and Hypotheses..... 22
Appendix B - In-Class Observation Procedures..... 25
Appendix C - Training Procedure..... 27

INTRODUCTION

Project Success Environment is an experimental program using an innovative teaching approach with normal children in regular inner-city classrooms. Project teachers are trained to reinforce (reward) every student for desired social and academic behavior and to ignore (not punish or attend to in any way) all but the most intense undesired behavior. We call this approach positive contingency management or simply, the success technique. We contend that most inner-city children experience early failure rather than success in school and consequently are poorly motivated toward school in general and academic tasks in particular. Moreover, failure is compounded as time passes so that expectations of failure are inculcated. By systematically replacing failure experiences with success experiences, the success technique helps inner-city students realize that they can succeed in school and thus generates in them a desire to succeed.

The results of implementing the success technique in sixteen inner-city classrooms have been dramatic. Students in project classrooms are more attentive, less disruptive, and show substantial academic aptitude and achievement gains when compared to students in traditional classrooms. These results, however, have been obtained in selected classrooms in two elementary and one middle school. They are the product of an intensive effort involving a great deal of time and money. In January, 1972, critical questions concerning the technique's exportability remained to be answered.

At this time when members of Project Success Environment's professional staff, having become convinced of the success technique's efficacy, were beginning to ask themselves how inexpensive and how practical exporting the technique into new schools would be, the project received a request to train the entire faculty of an inner-city elementary school in the success technique. At the invitation of the principal, members of the project staff met with the faculty of Fred A. Toomer Elementary School, 65 Rogers Street, Atlanta, Georgia. The meeting ended with arrangements being made

for the Toomer teachers to visit project classes. After visitation, the teachers were asked to decide whether or not they wanted to participate in Project Success Environment. Every teacher signed his or her name indicating a desire to try the new technique.

At this point the project staff agreed to introduce the success technique at Toomer Elementary School. Because our concern was with exportability, we established strict budget limitations and required each staff member to keep track of hours spent assisting at Toomer.* Not wishing to be overextended in this initial proliferation effort, we decided that training would center on using the success technique to reduce student disruption and increase attention. Student disruption was a growing concern at Toomer and this emphasis was readily agreed to by the Toomer faculty.

The project staff decided upon eight steps that the project would take as its part in the Toomer effort and established target dates for each step. The steps were as follows:

1. Collect in-class observations (ICO) baseline data (Jan. 11-24, 1972)
2. Train teachers in the theory of positive contingency management (Jan. 25 and 26)
3. Practicum experience for Toomer teachers in project classrooms (Jan. 31, Feb. 1 and 2; and Feb. 3, 4, and 7)
4. Monitor Day One of the success technique at Toomer
   a. Upstairs, middle grades (Feb. 7)
   b. Downstairs, primary grades (Feb. 14)
5. Meet with faculty for feedback, discussion, and planning (Feb. 14 - 3:00 P.M.)
6. Visit with Toomer protégés by project teachers (between Feb. 21 and March 1)
7. In-service meetings during planning day (March 1, 1972)
8. Collect post ICO data (March 6-20)

In addition to carrying out these eight steps, members of the project staff routinely visited Toomer to answer questions and give advice.

* A cost analysis of the Toomer effort can be found on page 17 of this log.

Steps 1 and 8 constitute the research and evaluation aspect of the Toomer effort. We wanted to know if, in a brief period of time, we could train the entire faculty of Toomer to use the success technique effectively. Further, we wanted to know if the technique's effectiveness could be maintained with limited assistance and at reasonable cost. In the original project classes, in-class observations had clearly shown that project teachers reinforce more and they punish less than comparison teachers using traditional teaching methods; and project pupils disrupt class much less often and they spend a greater percentage of time on task than pupils in comparison classes. At Toomer, we looked for changes to occur on these same four measures — teacher reinforcement, teacher punishment, student disruption, and student attention to task. An initial set of classroom observations was made in January before training began (Step 1) and a second set of observations was made in March after training had been completed and the success technique had been operable for a month (Step 8). (A more complete summary of the research objectives and hypotheses and a detailed description of the in-class observation procedures are presented in Appendices A and B respectively.)

We undertook the Toomer effort not only to answer formal research questions but also to gain first hand knowledge of the practical, day-to-day problems, including cost, involved in introducing and maintaining the success technique throughout an entire school.

As significant events — including accomplishment of the eight critical steps — occurred at Toomer, they were entered in a daily log. This log has been edited and condensed and is presented below for those readers, particularly school personnel, who are interested in and concerned about the practical difficulties and day-to-day procedures involved in implementing a positive contingency management program in a total school setting.

1/19/72 and 1/28/72 — PLANNING MEETINGS

Before introducing the success technique at Toomer, members of the project staff met on two occasions with the principal and the lead teacher. The meetings dealt mainly with the practical, administrative organization of the reinforcement system to be used at Toomer. The following plans were made during the meetings:

1. Each teacher will develop a set of from three to five class rules of conduct. For example: Work Hard; Follow Directions; Raise Your Hand to Speak.

2. Teachers will give check marks to students for following the class rules. Check marks will represent reinforcement and will fill a Success Record Card which every student will have.

3. Teachers will give out enough check marks so that, on the average, a student will fill his card every other day. Each card will have boxes for 50 check marks.

4. The emphasis will be on good student conduct initially, with reinforcement for academic behavior increasing as conduct behavior improves.

5. Two activity, or fun rooms - one on each floor - will be used as the back-up reinforcers in the system.

6. A student will earn 20 to 30 minutes of free play in an activity room by behaving so that his teachers gradually fill his Success Record Card with check marks.

7. Teacher aides and parents will staff the activity rooms, which will only be open in the afternoon.

8. Older students will be asked what they would like in an activity room.

9. All students will participate in some way in decorating the activity room.

10. A shelf will be located in all classrooms. Students who finish an assigned exercise quickly and correctly will be able to go to the shelf, get something interesting and fun, bring it back to their seats, and enjoy it until the remainder of the class or the group finishes.

11. An inventory will be taken of possible reinforcers already available at Toomer, particularly those that could be used in an activity room or on a shelf.

12. Interest stations will <u>not</u> be used in every Toomer classroom as they are in project classrooms.

13. Separate rooms, called station rooms, will serve all classes during the morning reading instruction. The procedure for using these station rooms remains to be worked out.

14. The Toomer faculty will explain the success technique to Toomer parents and ask for their cooperation at next PTA (slide presentation suggested for agenda, otherwise Toomer teachers to conduct program).

In addition, preparations were made for collection of in-class observation data during January and again in March, during the ongoing operation of the success technique.

STEP 1 — 1/31/72 -- BASELINE MEASUREMENT

At this point, in-class observational data had been collected on all fourteen Toomer teachers. Each teacher was observed nine times (barring absenteeism) in January (and will be observed nine times again in March). All teachers were observed at the same time each morning during 45 minute perious. A minimum of fifteen students had to be present for an observation to take place. Both teacher reinforcement and punishment and student attention and disruption were recorded. The nine days of observation were divided into thirds. The possible commulative effect of simply being observed for nine days will be analyzed as well as the effect of the success technique. (The form used to summarixe the ICO data collected on a given teacher is included in Appendix B.) Step 1 constituted the PRE part of the basic PRE/POST research design outlined in Appendix A.*

STEPS 2 and 3 — 2/2/72 — TRAINING

Immediately after the completion of Step 1 all the Toomer teachers and some of the Toomer support personnel began training in the success technique. The training process is outlined in detail in Appendix C.** Training consisted of two days of theory (Step 2), followed by three days of observation and practice in a success classroom under guidance of an experienced success teacher (Step 3), and a final two hour planning session in the afternoon of the third day of observation. The final session was devoted to discussion of the practicum experience in success classrooms and to detailed organization of the Toomer program.

The first day of training (1/25/72) began with an introductory talk by Dr. Boyd R. McCandless of Emory University. One of the original planners of Project Success, Dr. McCandless explained the thinking behind the project's development. A number of distinguished guests were also present. They expressed their optimism about the project and encouraged the teachers. Among the guests were Dr. John Letson, Dr. Curtis Henson, Mr. Edwin Thompson, Dr. Johnnie Morrison and Mr. Lester Solomon from the State Department of Education.

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*For a brief summary of the results of the PRE/POST behavioral data, see page ___ of this log.

**The training procedures outlined in Appendix C were a first attempt. On the basis of the experience gained at Toomer and elsewhere, the Project Success Environment: Training Package for Principals has been prepared in order to facilitate exportation of the success technique to new schools.

The formalities over, training began in earnest. All the Toomer teachers had previously been assigned readings concerning the theory of positive contingency management as applied to the classroom. (A list of these readings is presented in Appendix C, Section I.) On the first two days of training, the teachers were divided into three groups to be instructed in what they had read and to discuss its application to their own classrooms. Group instruction and discussion continued during the second day, which also included a slide presentation illustrating how positive contingency management is being applied in Project Success Environment classrooms.

Before returning to their groups for a final session, the Toomer teachers obtained practical experience in success classrooms. Each project teacher helped to train a teacher from Toomer. The project teachers were given a guideline of procedures essential to the success technique as it would be implemented at Toomer and they were asked to demonstrate these procedures for their protégés. The Toomer teachers were divided into two groups based on grade level taught. The upper-grade teachers observed and assisted in project classrooms between January 31 and February 2; the lower-grade teachers, for three days between February 3 and February 8. An abridged form of the guideline of essential procedures given to each project teacher is as follows:

I. Demonstrate the following:
   a. Do's and Don'ts (see II below)
   b. Order Tasks
   c. Class rules
   d. Use of shelf in classroom for down time

II. Do's and Don'ts

Positive

Do:

a. Ignore disruptive behavior and focus your attention on the children who are working well. In this way you prompt the correct behaviors in the children who are misbehaving or responding incorrectly.
b. Catch the disruptive student behaving well and reinforce behavior incompatible with that which you wish to eliminate.
c. Reinforce immediately following the behavior you wish to strengthen.
d. Accompany reinforcement with descriptive praise telling the student exactly what he did well.

Negative

Do Not:

a. Direct the majority of reinforcement to the best students.
b. React emotionally to undesirable behavior.

In the afternoon of their last day of training, each group of Toomer teachers met in a final session with the project staff and consultants to hash out details of implementing the program at Toomer. The final decisions made about the major aspects of the technique at the two meetings are summarized below.

1. CLASS RULES

   a. Each teacher will decide upon 3 to 5 rules of conduct for her classroom. Teachers operating within a team need to have essentially the same rules arrived at by mutual consent.

   b. The rules must be brief and must be stated in a positive manner — no rule can be worded "DO NOT ..."

   c. The interpretation of the rules to the students must be consistent within a team — interpretation means both when the rules apply and also what the exceptions are.

2. USE OF SHELF

   Every classroom will have a shelf to which a student may go, get something interesting, and bring it back to his seat whenever he finishes an assigned task correctly before others in his group have finished. Puzzles, comic books, magazines are appropriate for the shelf.

3. USE OF 8:30 - 9:00 HOMEROOM PERIOD

   a. Each day reinforce for following class rules.

   b. Assign order tasks* and reinforce for their successful completion.

4. SYSTEMATIC SCHEDULE OF REINFORCEMENT

   a. Each period, every student is reinforced at least once and ideally about 5 times.

   b. The teacher will change color of her magic marker each period; thus the color of the last check-marks she sees on a student's card will provide her own feedback on frequency of reinforcement.

   c. The teacher will chart the number of filled success record cards handed in by each student in her homeroom.

5. SUCCESS RECORD CARDS

   a. Checks on a success record card, along with verbal praise, will be the main reinforcers in the system. When a card is filled with checks, it can be exchanged for free time in an activity room.

   b. Every student will first be given a card with 25 boxes to fill so that he quickly earns enough reinforcement to sample the rewards available (the activity room).

   c. When the student hands in the filled 25 check-mark card he receives a new 50 check mark card.

   d. Fifty check- mark cards will be used as long as the students are filling them at a rate approaching every two days. A filled 50 check-mark card earns a ticket of admission to the activity room and a new 50 check-mark card.

*Order tasks are exercises so simple that following the directions insures successful completion of them.

6. ACTIVITY ROOM

   a. Twenty to thirty minutes of free play in the activity room is contingent on 1 filled success record card.

   b. A filled card is handed into the student's homeroom teacher at designated trading times, and the student receives a ticket of admission to the activity room.

   c. The teacher writes on the ticket the activity room period that the student is eligible for.

   d. The teacher assigns an approximately equal number of students to each period.

7. ACTIVITY ROOM SCHEDULE

   a. Upper-level — three 30 minute periods between 1:15 and 2:45.

   b. Lower-level — six 20 minute periods between 12:55 and 2:55 with Cluster A students having opportunity during periods 1, 3, and 5; Cluster B going during periods 2, 4, and 6.

8. Plans were laid for an open house in the activity room on Friday preceeding DAY ONE (on Monday) — each class given 15 minutes to enjoy the room and learn what it has to offer.

9. OBSERVATION BY PROJECT STAFF

   a. Staff members emphasized their availability and asked teachers to request assistance.

   b. Teachers reacted by asking staff to observe and give feedback without invitation.

Obviously, a great deal was accomplished during the two final sessions. The decision to divide the Toomer teachers into middle primary and lower primary grades and to meet with the two groups separately was partly responsible for the success of the meetings. Discussion among six or seven teachers involved with the same or similar students proved far superior to meeting with an entire faculty as a whole.

On the day after the final session, teachers were freed from their classes and given time to prepare for the introduction of the success program. Project staff were on hand this day and on days following to lend advice and assistance upon request.

2/4/72 - DAY ONE MINUS ONE

Friday afternoon before DAY ONE, the second floor activity room was opened to each upper-grade class for 15 minutes. This served to whet the students' appetites; time in the activity room became a desirable reward for filling a success record card. The students were wild with enthusiasm. The most popular activities were the hot wheels, dress-up clothes, and record players.

The only problem concerned students wandering in the upstairs hall and trying to sneak into the activity room instead of returning to their classrooms. A sign-in procedure and a blockade of bookshelves at the door were immediately necessary.

STEP 4 — 2/7/72 — DAY ONE

The first day using the success technique in the upper grades went well, though there were the inevitable frustrations and minor problems. The behavior management advisor assigned by the project to monitor and help out during DAY ONE, made the following comments:

1. The reinforcement system operated amazingly well for the first day.
2. The teachers seemed pleased.
3. The aide assigned to monitor the stations in the morning and the activity room in the afternoon needs some training in the success technique.
4. The activity room continues to attract hall wanderers. All possible entrances were blockaded with available hardware. This lessened but did not completely solve the problem.
5. The speech therapist requested to be part of the program. She was issued a magic marker and briefly instructed in the proper administration of check-marks.
6. The janitor was enthusiastic about using check-marks for good behavior in the halls. He too was issued a magic marker.
7. As expected, ignoring is the most difficult thing for the rookie success teachers to learn.
8. The math teacher was absent but his students were introduced to the success program by the science teacher.
9. The substitute teacher in the math class was also given a magic marker and brief instructions. The students took advantage of her.
10. There were two instances of students filling in their own check-marks. When they were caught, the teachers issued them new, empty cards.

2/13/72 - RENEWING COMMITMENTS

A proposal at staff meeting suggested that Toomer teachers be given an opportunity to get out of the program. The teachers may be told that after post testing in March they will have fulfilled their original commitment to Project Success. Whether or not they continue to use the success technique will be their decision. The project staff will remain available to them as a resource to provide aid upon request. Such a request may be made permanent for the remainder of the year if the teacher wishes.

STEP 5 — 2/14/72 — FACULTY MEETING

On February 14, the day that the lower grades at Toomer introduced the success technique, members of the project staff met with all the Toomer teachers immediately after school was dismissed. The project personnel who had been monitoring at Toomer gave some feedback to the teachers and indicated that in general things were going well.

2/17/72 - REFLECTIONS ON TRAINING OMMISSIONS

That a school's paraprofessionals need almost as much training in the success technique as the teachers do is increasingly obvious. The project will probably insist on this in the future. Meanwhile, at Toomer, the project staff is attempting to train aides whenever an opportunity arises.

As the project staff attempts to reduce time spent and support given at Toomer, difficulties are arising because no one at Toomer is stepping in to assume responsibility for running the new, success-related systems. In the future, the project must insist upon special training for someone in a leadership role at a success school.

2/20/72 - PROCEDURE CHANGE IN ACTIVITY ROOM

Difficulties with students entering and leaving the activity rooms persist. Entrance is a problem for two reasons: (1) it takes too long for 25 or 30 students to sign in; and (2) while one group is signing in, another group is supposed to be leaving. Exit is a problem simply because the students don't want to leave and the aide is hard pressed to round all of them up while supervising another group's entrance at the same time.

New procedures have been introduced. In the lower-grade "fun room" the problem is less serious and only a few changes have been made. The students no longer sign in. The aide now checks students in on a master chart; they only have to hand her their ticket and give their name. The aide has also been issued a kitchen timer that she sets to ring one minute before the next group is due to come in. When the timer rings, she blinks the lights and announces that it is time to line up. On an unpredictable schedule the aide gives a

piece of penny candy to all students who line up within approximately 15 seconds.

For the upper-grade activity room, signing in has been abandoned entirely. Instead, the aide tears each student's entrance ticket in half and returns the stub to him. If the aide suspects that a student has sneaked into the room, she can request to see his ticket stub. The kitchen timer, blinking lights, and candy are also used here. In addition, the aide always gives check-marks to the students who line up quickly and give her their ticket stubs. All stubs are taken up as the students leave the activity room.

STEP 6 — 1/21/72 - 3/1-72 — INSERVICE FEEDBACK

Between February 21 and March 1, most of the veteran project teachers spent several hours visiting the classrooms of their protégés at Toomer and giving individualized feedback and assistance. During the visitations, project assistants took over in the project classrooms.

Both project and Toomer teachers seemed to enjoy the visits, and the staff was pleased with the observations made and the advice given by the project teachers. On future occasions this part of the training may be expanded. Something is special about teacher to teacher interaction, and both project and Toomer teachers advised us that we did not allow enough time for teacher to teacher dialogue.

3/2/72 — AIDES A.DING AIDES

To compensate for the error of not putting the Toomer aides through the formal training process with the Toomer teachers two experienced project assistants have spent some time at Toomer working with the two teacher aides who run the activity, or fun room, in the afternoon. They are giving very informal inservice training in the success technique.

STEP 7 — 3/1/72 — PLANNING DAY

Students did not attend school on Wednesday, March 1, which had been set aside by the school system as a planning day for the teachers. At Toomer we took advantage of this day to meet with the teachers, discuss their present concerns, and give them feedback.

We met for an hour and a half in the morning and again for an hour in the afternoon. The morning session covered a number of problems and questions of a critical nature. No notes were taken at the morning meeting, but one of the behavior management advisors had outlined a list of concerns the night before. This outline was based on observations made in approximately half the Toomer classrooms two days before the meeting. These points were all discussed; many of them were brought up by the teachers themselves:

I. CLASS RULES

a. Continue to reinforce students who follow the rules and ignore those who don't.

b. Concentrate reinforcement on the rules most often broken in your class.

c. Every day -- particularly at the beginning of the day — reinforce all of the rules.

d. "Working Hard" and "Paying Attention" are not being reinforced often enough.

e. "Raise Your Hand to Speak" must be followed consistently or taken down — the teacher can use a cue when she wants a group response.

f. Reinforcing the class rules with consistency must become a habit for the teacher just as following the rules must become a habit for the students.

II. NUMBER OF CHECK-MARKS ADMINISTERED

a. Average giving out 2 or 3 checks every minute.

b. One check-mark accompanied by descriptive praise is sufficient for reinforcing following class rules and all common conduct behaviors.

c. Because frequent instances of reinforcement are more effective than giving a large number of check marks on only one occasion, concentrate on giving frequent checks accompanied by brief, warm, direct, descriptive praise.

d. With few exceptions, give multiple checks only for academic behavior; and then let students know ahead of time how many checks they are working for.

e. Stay with the 50 check-mark cards until the great majority of the students throughout the school are filling their cards in 2 days.

III. MOBILITY AND ATTENTION TO HANDS

a. Avoid staying in one place for more than a few minutes.

b. Make frequent but unpredictable trips around the room to reinforce "working hard," "staying in seat," or whatever is needed.

c. Do not let a student raise his hand and not receive some recognition, even if it is only that you will get to him as soon as you can.

IV. ACADEMIC REINFORCEMENT

a. Appropriate for students who are behaving well.

b. Students continuing to misbehave should not be allowed to gain much reinforcement for anything except good behavior.

c. Do not administer reinforcement so that well-behaved students are getting a great deal more reinforcement than the more difficult students.

V. USE GRAPH OF REINFORCEMENT EARNED

a. Concentrate on students behind on the graph.

b. Give these students work at their level.

c. Reinforce them for following the class rules and for all desirable behavior that is incompatible with their problem behaviors.

VI. OTHER POINTS

a. Make sure no reinforcement is available unless it is earned.

b. Give check-marks for prompt arrival and sitting after class changes.

c. Keep your Magic Markers with you always.

d. Use the shelf to reinforce students who finish exercises quickly and correctly.

3/5/72—SUBSTITUTE TEACHERS

Initially it was hoped that the substitute would be able to take over and utilize the bare essentials of the success technique when a teacher had to be absent. It has not worked out. A substitute teacher in a success class who attempts to utilize the success technique is asking for trouble. The students take advantage of her and the class is often more disorderly than if the substitute came in and took over in a traditional manner. In short, the substitute should not be allowed to attempt the technique.

This means that, whenever a teacher is absent, the students are likely to relearn old habits and the success teacher must back up with the technique for the first few days after she returns from an illness. The only alternative is to have a corps of trained success teachers available as substitutes.

3/6/72 — CARD COSTS

The students at Toomer have used up 1,500 fifty-check-mark success record cards in about two weeks. At the present rate they will fill a total of 10,000 cards by the end of the school year. The expense of printing these cards is becoming a consideration. Mimeographed cards will be considered.

3/6/72 — PARENT INVOLVEMENT

Though parental response at PTA was encouraging, few parents are volunteering to help staff activity rooms. The project thinks that it is important for parents to participate and it is certain that the teacher aides can use help.

3/7/72 — AFTERNOON REGRESSION

During the afternoon after trading time has passed, the upper-grade students become markedly more disorderly. Probably the students realize that no amount of good behavior after trading time will give them the opportunity to use the activity room that day. Also, the new but empty success record card given to students who have traded a filled card and gotten their ticket of admittance is probably a little discouraging. So students regress back to their former behavior and wait until the next morning to behave and earn check-marks. Because students will more frequently earn access to the activity room if they behave and get check-marks all the time, this behavior is obviously somewhat maladaptive. However, it appears that the students are going to remain shortsighted, and something must be done to improve their behavior in the afternoons.

Almost from the beginning of regular activity room usage by the "upstairs" (upper grade) students, there have been expressions of dissatisfaction on the part of their teachers because: (1) Students returning from the activity room do not get right back to work; (2) Students scheduled for the 2nd and 3rd activity room periods spend much of their time clock watching and bugging the teacher about the time; (3) When activity room period changes coincide with class changes, there is confusion outside the activity room — students attempt to enter without a ticket, generally mill around, and engage in various other activities inconsistent with going to the next scheduled class.

The project's behavior management advisors have suggested to the teachers that they emphasize specific positive contingencies in the classroom for promptly getting to work after returning from activity room and for working hard prior to going to the activity room. The advisors also suggested that activity reinforcers, such as being mini-teacher, messenger, etc., be made available at all times during the day, and especially in the afternoon, so that students not

able to go to the activity room have other options available to work for. The effectiveness of this advice remains to be seen.

STEP 8 — 3/22/72 — POST ICO

Between March 6 and March 21, in-class observational data were collected as they had been in January. Although only 9 days of observation on each teacher were required, data collection took two-and-a-half weeks because of absenteeism of both the observers and the teachers and of other minor scheduling problems. Two of the January observers had obtained full-time jobs and were replaced for March data collection. Otherwise, the observers observed the same teachers they had been assigned to in January. In some cases less than 9 observations were made on a teacher, but this is not a major deficiency.

The following behaviors were observed in every classroom for 45 minutes in the morning each day: (1) teacher reinforcement; (2) teacher punishment; (3) student attention; and (4) student disruption. The frequency of teacher reinforcements and student disruptions was divided by the number of students present in the classroom during each observation to make the data comparable across classes. The data were averaged over all 14 Toomer teachers with one average taken for the two weeks prior to training and another taken for the two weeks after the technique became operational. The results are summarized below:

TOOMER ICO DATA
Average of All 14 Classes

Behavioral Measure	Before Success Technique		After Success Technique		F Values
	Range	Mean	Range	Mean	
Reinforcements per Student (15 minutes)	0.02 - 0.54	0.21	0.13 - 1.51	0.70	31.87
Disruptions per Student (15 minutes)	0.20 - 2.43	1.13	0.00 - 2.03	0.56	22.23
% Time On-Task	37.3 - 88.9	67.4	63.4 - 98.7	84.5	52.50
Total Punishment (15 minutes)	0.0 - 10.0	2.50	0.0 - 3.67	0.83	5.86

We think that the BEFORE/AFTER mean differences (significant at the .01 level) are entirely attributable to the introduction of the success technique. The range of the frequencies before and after make clear that, even with the technique in use, differences between teachers remain great. The means on all four measures taken after the introduction of the success technique are slightly less optimal than the average on these measures in the full-time project classes, but the success technique was introduced into Toomer with far less time and expense than into the original project classrooms. Also, Toomer has now been operational for less than six weeks.

3/25/72 — AFTERNOON REGRESSION REVISITED

Student behavior in the afternoons following the opening of the activity rooms is still more disruptive than desired. However, those teachers who followed up on the recommendations of the behavior management advisor (see 3/7/72) have noticeably reduced the problem.

5/5/72 — SPRING FEVER

Spirit at Toomer was high immediately following the post-evaluation when teachers had an opportunity to see the positive results from the ICO data. Unfortunately the spring vacation began right after this high point.

When the students returned to school after the break, a number of circumstances combined to endanger the continued positive impact of the program. First, the principal was absent from the school for an entire week attending a professional meeting. Secondly, the yearly book inventory was due at approximately this same time. The result was that the Activity/Fun Rooms were not open for over a week, and alternative activity rewards discussed previously by the teachers were not used. This created both a great deal of dissatisfaction among the students and concern among the teachers about the effectiveness of their token system. The feeling among the students - openly expressed to both the teachers and the behavior management technician - was that we had broken our end of the contract. And of course they were right.

Fortunately by the end of the second week after the students returned, the activity rooms had been reopened and alternative reinforcers had been formulated and announced. These alternative reinforcers consisted of: (1) a trip to the Farmer's Market and Grant Park Zoo - price 5 cards; (2) an entertaining movie to be shown at 2:00 P.M. at school - price 3 cards; and (3) a dance (with refreshments) - price 3 cards. A check with all teachers revealed that the system had been revitalized. The trip occurred on April 27; the movie on May 5; and the dance has been planned for May 19.

Summer of 72 — CONTINUED PARTICIPATION AT TOOMER

All of the Toomer teachers agreed to continue using the success technique through the end of the 71/72 school year. During the summer of 1972, the project received a letter (reproduced in part below) from the principal at Toomer expressing the desire of most teachers to continue in Project Success Environment.

Project Success:

The Toomer School Staff appreciated the opportunity to participate in the Project Success Program for a part of the 1972 school year. As a concerned group we have tried to solve the dilemma of what to do about those ... children who consistently disrupt classroom activities with their "acting out" and often agressive behaviors. While Project Success cannot be termed a panacea, some benefits have been clearly evident. Therefore we look forward to our participation in the program for the school year 1972-73.

After a lengthy discussion of the pros and cons of the program in our final evaluation and planning session, the following points of agreement emerged:

1. Project Success Program produced some noticeable reduction of incidents of disruptive behavior in most classrooms.

2. There was ... overall improvement in teacher ability to manage and manipulate learning environments for their pupils and in teacher attitude toward positive re-inforcement.

3. Pupil interest and enthusiasm increased greatly, especially in those pupils who had been most disruptive before the project.

... Of the fifty-seven fifth graders questioned, thirty-nine stated that Project Success had made a difference with them. They hoped that it would be continued at Toomer School. Only eighteen pupils said either "some" or "no" to the questions.

Of the fourteen classroom teachers and one EMR Resource Room teacher all except three agreed with enthusiasm that they would like to continue in the program for the school year 1972-73.

ADDENDUM — ROLE OF ADVISOR AT TOOMER

The behavior management advisor has played a somewhat different role in the Toomer effort than in the regular Project Success Environment classrooms. The biggest change involved the relationship of the behavior management advisor to the teacher after the program became operational. Whereas the advisor regularly observes in the project classrooms, providing feedback to the teacher along with necessary procedural recommendations concerning the technique, the role of the advisor with the Toomer teachers has been that of a somewhat passive support and resource person. Specifically, it amounts to seeing that the teachers have the necessary "tools" (check-mark cards, magic markers, tickets, etc.) and working out the practical logistics for the activity room back-up reinforcers. Providing feedback relative to the technique is done only at the teacher's request. We do not observe in the rooms on a regular basis, but simply make ourselves "available" for consultation. This matter of availability is often contrived by delivering some of the "tools" to the classes and in the process asking how things are going. This often elicits concerns that perhaps a completely passive "available-on-call" role would not.

ADDENDUM — COST BREAKDOWN*

The total cost of the Toomer effort was $6,569; however, the research component constituted over half of that amount, and, of course, in a future proliferation effort research would not be crucial. Thus, the cost-per-pupil and cost-per-teacher (reported below) are computed on the basis of $3,242, which is the total cost minus the research cost.

Cost Breakdown for Toomer Proliferation Model

TRAINING TEACHERS: (consultant time; staff time, substitute teachers; materials)	$ 1,548
ONGOING ASSISTANCE: (feedback to Toomer teachers by project staff concerning the success technique and the reinforcement system)	483

*The reader should note that the cost breakdown for Toomer is unique. A more typical cost estimate is now available. Based on the experience gained at Toomer and elsewhere, the project has prepared both an Estimated Start-up and Installation Cost Analysis (for the entire first year of the success technique) and an Estimated Continuation Cost Analysis (for an entire second or third year).

REINFORCEMENT MATERIALS: (check-mark cards; magic markers; M&M's; games)	80
OTHER SUPPORT SERVICES: (pre-planning time; curriculum assistance; Toomer log; miscellaneous)	1,131
TOTAL:	3,242
Cost per Pupil	8
Cost per Teacher	232
RESEARCH: (Data gathering; data analysis; cost analysis)	3,327
TOTAL COST	$ 6,569

APPENDIX A:

RESEARCH OBJECTIVES AND HYPOTHESES

Objective 1

IN A BRIEF PERIOD OF TIME TO TRAIN THE EXISTING FACULTY OF AN ELEMENTARY SCHOOL TO USE THE SUCCESS TECHNIQUE BY MEANS OF AN INSERVICE PROGRAM UTILIZING PROJECT SUCCESS ENVIRONMENT TEACHERS AS TRAINERS.

Hypothesis 1

After a teacher-to-teacher training program and approximately four weeks' experience with the success technique, the incidences of positive reinforcement dispensed by the elementary school teachers will be significantly greater ($p < .05$) than the incidences of positive reinforcement dispensed prior to training and experience.

Hypothesis 2

After a teacher-to-teacher training program and approximately four weeks' experience with the success technique, the incidences of punishment dispensed by the elementary school teachers will be significantly lower ($p < .05$) than the incidences of punishment dispensed prior to training and experience. (If incidences of punishment approach zero during the observation periods, the positive reinforcement data alone will be considered.)

Measures

Incidences of positive reinforcement and punishment in the classroom will be recorded during a two-week period prior to the introduction of the success technique and during a two-week period after the success technique has been operative for approximately four weeks.

Objective 2

TO ASSESS THE EFFECTIVENESS OF A MODEL FOR REPLICATING THE SUCCESS TECHNIQUE AS APPLIED TO STUDENT CONDUCT IN THE CLASSROOM AT MINIMAL COST AND WITH MINIMUM ASSISTANCE FROM OUTSIDE THE SCHOOL.

Hypothesis 1

After approximately four-weeks' exposure to the success technique, the pupils will display significantly less ($p<.05$) disruptive behavior in the classroom as compared with their behavior prior to the introduction of the success technique.

Measures

Incidences of disruptive behavior in the classroom will be recorded during a two-week period prior to the introduction of the success technique and during a two-week period after the success technique has been operative for approximately four weeks.

Hypothesis 2

After approxiamtely four-weeks' exposure to the success technique, the pupils will display significantly more ($p<.05$) on-task involvement as compared with their on-task involvement prior to the introduction of the success technique.

Measures

Incidences of on-task involvement in the classroom will be recorded during a two-week period prior to the introduction of the success technique and during a two-week period after the success technique has been operative for approximately four weeks.

APPENDIX B:

IN-CLASS OBSERVATION PROCEDURES

TOOMER ICO DATA RECORD SHEET

Teacher:_____ Grade:_____ Observer:_____

Jan. 11 - 24

Date	# Present	Tot. Rfct	Rfct/Stdt	Tot. Disr.	Disr/Stdt	Tot. Pun.	% Invo.
Average							
Average							
Average							
			March 6 - 17				
Average							
Average							
Average							

APPENDIX C:

TRAINING PROCEDURE

Program Outline for Three-day Course and Three-day Practicum

I. Reading Assignment for Toomer Teachers

1. Madsen, C.K. and Madsen, G.H. You Are Already Using Behavior Modification, Instructor, October, 1971.
2. Selected chapters from Becker, Englemann and Thomas Teaching: An Applied Psychology Course.
   a. Chapter 2, pp 13-16, 20.
   b. Chapter 3, pp 26-30, 35.
   c. Chapter 4, pp 40-45, 51.
   d. Chapter 5, pp 54-60
   e. Chapter 9, pp 102-105, bottom 111
   f. Chapter 11, pp 131-137, 142
3. Written assignment: Teachers will be asked to define a number of concepts explained in readings.

II. Three-day Course

1. Day 1 - January 25, 2:00 - 4:00
   a. Introduction of guests: Letson, Henson, Thompson 2:00 - 2:15
   b. Introductory talk by Boyd McCandless 2:15 - 2:30
   c. Group to be divided into three teams by grade level with a group leader and experienced Project Success Teacher on each team. Group leaders are Howard Rollins, Dick Tucker and Scott Persons.

      Teams will review basic concepts of each chapter in Becker, et al, in 20 minute segments (one chapter per 15 minutes). Coverage of each chapter will include four steps. First, group leader will summarize the chapter, answer questions, ask for comments from experienced teacher. Second, teachers will be asked to give a written summary of the major rules covered in the chapter. Third, teachers will be given a "ditto" of the correct set of rules. Fourth, teachers will be permitted to ask additional questions about the chapter.

d. Summary of Project Success handed out for reading at home. 2:30 - 4:00

2. Day 2 - January 26, 3:15 - 4:15
   a. Final Chapters of Becker et al, covered in same way as for Day 1.
   b. Presentation of slides.
   c. Discussion of Project Success Program (how implemented, etc.) by Scott Persons
   d. Introduction of behavioral checklist

3. Final Session - To take place on the afternoon of the last day of the practicum experience (February 2 or February 7, see day 5 below)
   a. Discussion of observation and participation in a project class
   b. Presentation of the program to be implemented at Toomer
   c. Question and Answer; Discussion
   d. Work with groups to determine exactly how program is to be implemented at Toomer

III. Three-Day Practicum

1. Day 3 - January 31 or February 3
   First day will consist of both observation and informal participation by Toomer teachers. Project teachers should show Toomer teachers the basic procedures and allow Toomer teachers to participate whenever possible as an assistant in the class.

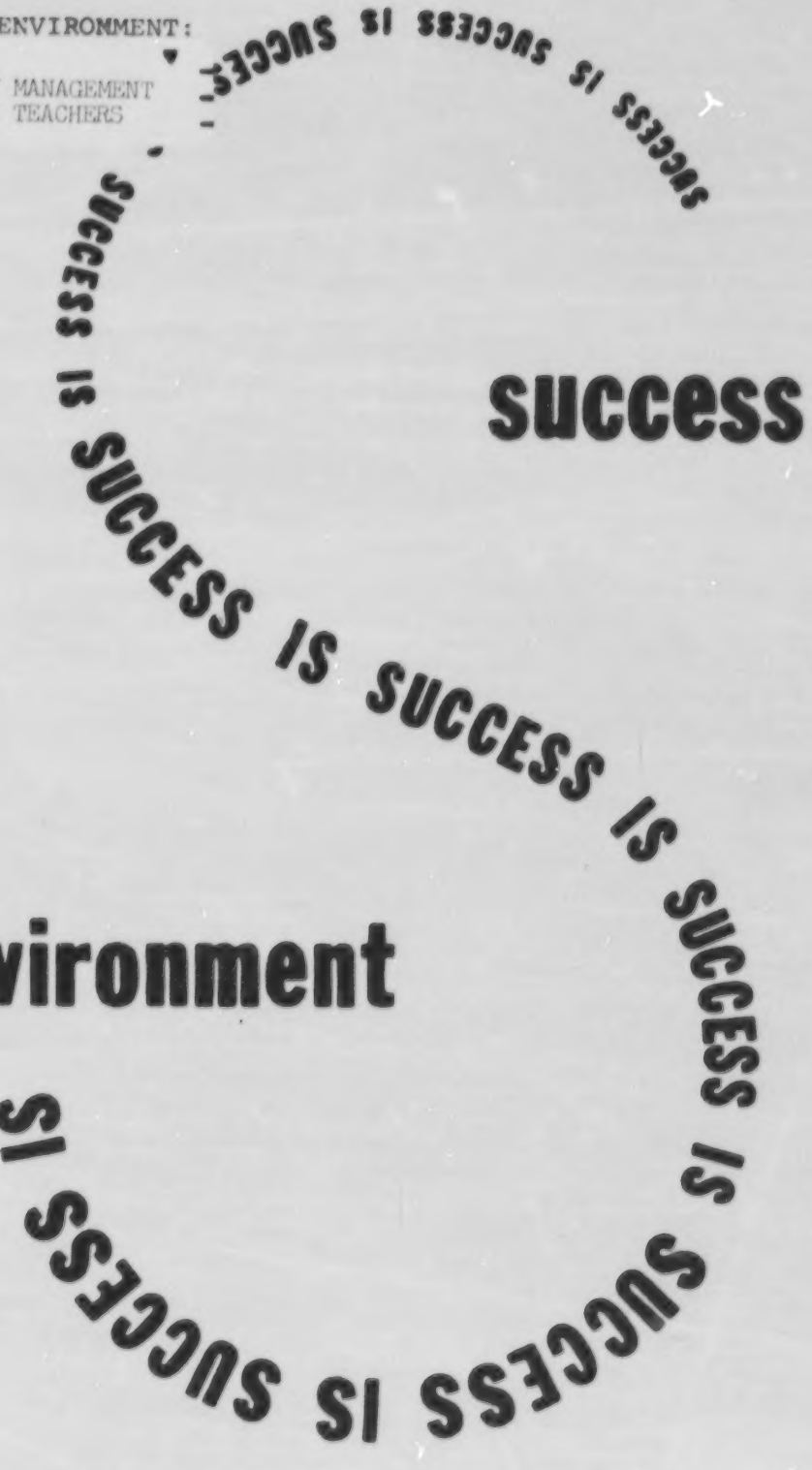
2. Day 4 - February 1 or February 4
   Same as Day 1. However, Toomer teachers will be expected to take over the class unassisted for two fifteen minute periods. Project teacher should observe during these intervals and offer constructive advice about the use of the technique, particularly the concepts on this list.

3. Day 5 - February 2 or February 7
   On the last day, Toomer teachers must teach project classes for at least two 30-minute sessions. Project teachers will be asked to fill out behavioral checklist on these sessions and offer

these as feedback to Toomer teachers. At 2:00 P.M. the Toomer teachers will meet with the project staff for a final session.

PROJECT SUCCESS ENVIRONMENT:

A POSITIVE CONTINGENCY MANAGEMENT PROGRAM FOR ELEMENTARY TEACHERS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ATLANTA PUBLIC SCHOOLS
Division of Instructional Services

Project Success Environment: A Positive Contingency Program for Elementary Teachers Management

Prepared by:

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The research reported herein was performed pursuant to a grant from the Georgia Department of Education under the provisions of the U. S. Public Law 89-10, Title III, Elementary and Secondary Education Act of 1965 as amended.

Project Success Environment
892 Vedado Way, NE
Atlanta, Georgia 30308

September, 1973
APS-PSE-8

A C K N O W L E D G M E N T S

During its three-year developmental period--July 1, 1970-June 30, 1973--Project Success Environment has operated an innovative program within Area V of the Atlanta School System. The Project has helped both teachers and students develop significantly more effective means of functioning in the classroom. The results of our effort have been satisfying and the recognition received has been highly gratifying. But without the cooperation and support of a great many people, neither could have been possible. For this reason, it is appropriate to extend both recognition and appreciation to the following.

THE PROJECT STAFF

Mrs. Jean Bowen
Exportation Coordinator

Mrs. Sylvia Jones
Dissemination Coordinator

Dr. Scott Persons
Exportation and Evaluation Coordinator

Mrs. Frances Ruth
Exportation Specialist

Ms. Anne Sapp
Technical Writer

THE PROJECT TEACHERS

Wesley Elementary

Mrs. Frances Arnold -- Fourth Grade
Mrs. Florence Rose -- Fourth Grade
Mrs. Lucy Smith -- Fifth Grade
Mrs. Eddie Storey -- Fifth Grade

Whitefoord Elementary

Mrs. Patrician Brittain	--	Fourth Grade
Mrs. Betty Copeland	--	Second Grade
Mrs. Bertha Green	--	First Grade
Miss Patricia McCleese	--	Third Grade
Miss Sandra Meyer	--	Fourth Grade
Mrs. Joycelyn Wilson	--	First Grade

Coan Middle School

Mrs. Gwendolyn Ashmore	--	Sixth Grade
Miss Marshall Ann Barrett	--	Sixth Grade
Miss Elizabeth Brown	--	Sixth Grade
Mrs. Shelia Cross	--	Sixth Grade
Mrs. Patricia Godbey	--	Sixth Grade
Mr. Richard Goerss	--	Sixth Grade
Mrs. Jesse Jackson	--	Sixth Grade
Mr. James Lamar	--	Sixth Grade
Miss Barbara Westlake	--	Sixth Grade

THE PROJECT PRINCIPALS

Mr. Gene Chandler, Whitefoord Elementary
Mr. Wilbur Leaphart, Coan Middle
Mr. Robert Warren, Wesley Elementary

In addition, appreciation is expressed to Mrs. Mary Greene, principal of Toomer Elementary School and her faculty and staff, who introduced the Project Success Environment program into Toomer on a school-wide basis in February of 1972. This represented the first planned effort to export the major project-developed concepts. Further thanks are extended to each teacher and principal who cooperated with the data used as part of the research design.

In September of 1972 Grant Park became affiliate school. A special expression of thanks is due the faculty and staff there

for the genuine cooperation that has been experienced. (Present plans call for Grant Park becoming the administrative training center during 1973-74.)

Many, many persons have helped make Project Success successful. There are the professionals. There are the non-professionals. All of these did a great job! However, lest we forget, one important group deserves special recognition as we move on to the exportation phase of the project. The children.

Six very special persons deserve special tribute--Mrs. Frances Arnold, Mrs. Gwen Ashmore, Miss Marshall Barrett, Mrs. Bertha Green, Mrs. Florence Rose and Mrs. Joycelyn Wilson were among the eight original project teachers. All have made significant positive contributions to the comprehensive success effort.

Any exemplary program requires unusual support from top level administrators if any sort of success is to be experienced. This support must be consistent and steadfast. Throughout the "life" of the project this kind of support has been received from several administrative areas, including the purchasing department. This is intended to recognize and express appreciation for the support and cooperation given by the Assistant Superintendent for Instruction and the Area V Superintendent.

In addition to the Atlanta school personnel, the project has benefitted enormously from outstanding consultative advice. Dr. Boyd McCandless of Emory University has consistently provided

advice and support to the project whenever we needed it. Dr. Howard Rollins of Emory University has been particularly valuable in providing continuity to the over-all research design. Moveover, Dr. Rollins has contributed more than the traditional project consultant relationship requires. He has been an active member of the success team. As a member he has participated significantly in the development of the Success Technique from the spring of 1970 to date. The project is further indebted to the previous research assistants who have been invaluable in both designing and executing the research design: Dr. Jim Watson, co-author of the original proposal, Mr. Carl Moore, Dr. William Brassell and Ms. Gail Russell. Sections of this report have been prepared by Ms. Russell.

Finally, perhaps the single most unique feature of the success thrust is the positive blending of resources and expertise of a large school system, a state department of education and a university. The cooperation and support realized during the three year funding period has been short of remarkable. The results realized from this speak for themselves. And I am very proud to have been a part of creating them.

Marion Thompson

Marion Thompson

TABLE OF CONTENTS

Year III 1972-73

INTRODUCTION 1

METHOD

- Subject and Design 2
- Project Staff 5
- Treatment 6
- Summer Training 21
- Measures of Pupils Variables 22
- Measures of Teacher Behavior 24
- Other Measures 25
- Testing Procedures 25

RESULTS AND DISCUSSION

- Effects of the Experimental Treatment on the In-Class Behavior of Project Pupils . . . 30
- In-Class Observations--Teacher Behavior . . . 36
- Academic Achievement 40
- Other Measures 46

SUMMARY YEAR III 60

APPENDIX 65

INTRODUCTION

The third year of the project was essentially a replication of Year II. Second year results indicated that the success technique had provided inner-city teachers with both an effective classroom management system and an effective program for the acceleration of academic performance. Therefore, no major changes were made in the technique during year III. To ascertain whether the results of Year III would indeed replicate the results obtained in Year II, in-class observation (ICO) was continued on a limited basis and achievement testing was again conducted in September and April. The design and procedure for achievement testing in Year III were essentially the same as for Year II. However, changes were made in the procedures for collection of ICO data in order to evaluate hypotheses different from those posed in Year II.

Additional teachers were trained during the summer of 1972 and their classes were added to the research base for Year III, making a total of 20 classes. To assess the effectiveness of the training and the importance of experience as a success teacher, the in-class behavior of the new teachers and of their students was compared to the behavior of the experienced teachers and their students throughout the school year.

During the first two years of the project, trained paraprofessional observers collected in-class observational data several times a week in project and control classes. The positive effect of the technique

on the observable classroom behavior of project teachers and students was established in Year I and improved upon in Year II. For Year III, in-class observations were made only twice each month. Any influence on the data of the frequent presence of observers in the classroom would show up by comparing Year II with Year III behavior in project classes.

A great deal of time and effort was spent throughout Year III disseminating information about Project Success Environment and developing means to export the success technique to new schools. However, these activities were tangential to the ongoing development and evaluation of the success technique itself and are not reported here.

METHOD

Subjects and Design

The subject population during the third year of the project consisted of 348 pupils who attended Project Success Environment classrooms and 246 randomly selected pupils who served as controls. All subjects were black and there were a few more females pupils than males (288 versus 230).

All pupils involved in the study attended a middle school and three of its feeder elementary schools located in east Atlanta. The community in which these schools are located is beset by many economic and social problems. Most of the families live in apartments or low rent housing. A survey conducted by Title I prior to the 72-73

school year indicated that from 35 to 74 per cent of the pupils attending these schools were from families earning less than $3,000 per year. As is typical of many pupils living in low-income communitites, the pupils attending these schools are behind in academic achievement, lack appropriate educational goals or aspirations, and as a consequence frequently become discipline problems in the school setting. Achievement data collected by the Atlanta Public Schools indicates that by the second grade of school these pupils are three months behind grade placement on achievement test scores and by the seventh grade they are two years behind.

Table 1 provides further characteristics of the teachers and pupils who participated in the study. Nineteen of the teachers were project teachers and 14 were control teachers. Ten of the teachers were white and twenty-three were black; all were female except four. As may be noted in Table 1, teachers had been in the project from one to three years. The previous classroom experience of these teachers ranged from one to thirteen years.

The pupils participating in the study attended grades one through six. Project pupils in grades one through five attended two different elementary schools. Control pupils for these grades were selected from a third school located in the same community and which had similar socio-economic characteristics. At the sixth grade level the project and control pupils attended the same middle school. All control pupils were randomly selected just prior to the beginning of Year III.

TABLE 1

EXPERIMENTAL DESIGN - YEAR III

		Experimental Classes					Control Classes	
		Teacher			Per Cent of	Per Cent of	Teachers	
Grade	Class	Sex	Race	Year of Entry	Two Year Pupils	Three Year Pupils	Sex	Race
1	A	F	B	3	0	0	F	B
	B	F	B	3	0	0	F	W
2	A	F	B	1	77	0	F	B
3	A	F	W	2	0	67	F	B
4	A	F	W	1	0	0	F	B
	B	F	W	1	0	44	F	B
	C	F	B	3	59	0		
	D	F	B	3	0	0		
5	A	F	B	2	0	54	F	B
	B	F	B	1	0	35	F	B
6	A	F	W	2	0	0	F	B
	B	F	B	2	0	0	F	B
	C	F	W	1	0	0	F	B
	D	M	W	1	0	0	F	B
	E	F	W	1	0	0	M	W
	F	F	B	3	0	0	M	B
	G	F	W	1	0	0		
	H	M	B	2	0	0		
	I	F	B	3	0	0		

Classrooms averaged from 25 to 30 pupils. In four of the project classes from 35 to 67 per cent of the pupils had been in the project for three consecutive years. In two other classes, 77 and 59 per cent respectively, had been in the project for two consecutive years. For all other pupils this was the first year in the Project Success classroom.

Project Staff

Management of Project Success Environment during its third year of operation was accomplished through the services of the projects' Director, two Coordinators, two Lead Teachers, an Evaluator, a Research Assistant, a Behavior Management Technician, and a Technical Writer.

The project Director oversaw and facilitated the ongoing work of the project in conjunction with the Superintendent, the Assistant Superintendent for Instruction, the Area V Superintendent, and project consultants from Emory University. The two Coordinators worked directly with the elementary and middle school principals in the ongoing supervision of project teachers and in obtaining necessary equipment, supplies, and instructional materials for project classrooms. The two Lead Teachers and the Behavior Management Technician worked directly with each of the project teachers to improve their use of the success technique. The project Evaluator and the Research Assistant, in conjunction with the project consultants, were responsible for the experimental design and evaluation of the program, including the monitoring of in-class observational data collection. The Technical

Writer was added to the staff at mid-year in order to create printed materials of high quality to aid the project in disseminating its concepts and past successes to the public and to interested school personnel.

All members of the project staff participated in the summer training both of new project teachers and of teachers in schools more loosely associated with the project. In addition, the entire staff devoted considerable effort during the latter part of the third year to developing means for exporting the success technique to other schools in Atlanta and throughout the state.

Treatment

During the first two years of operation, three principal components of the success technique evolved: a positive reinforcement system, a classroom arrangement, and a curriculum. The technique, as it had evolved during Year I and Year II, was continued during Year III. Because these three interacting components were applied concurrently so that no individual appraisal is feasible, they were evaluated as a single entity. The three principal components, as implemented during Year III, are described below.

Curriculum

The standard curriculum employed in the Atlanta Public Schools was modified slightly for use with the success technique. First, within each class the students were grouped according to reading ability, and curriculum materials were selected at levels appropriate to the three groups. Second, an attempt was made to subdivide the curriculum in each content area to create modules that could be

completed, evaluated, and reinforced daily. For example, children were given skill sheets providing daily practice in each subject area that permitted immediate evaluation, feedback, and reinforcement. In addition to the modified standard curriculum, the Sullivan Reading program was added at every grade level. This program also provided materials at several levels and opportunities for frequent evaluation and feedback.

The children in project classes often started the school day with a short task requiring only that they follow directions. Commercially available perceptual-motor sheets were used along with simple tracing, design copying, and visual discrimination tasks. These order tasks were designed to get the students involved early in the day with a simple task almost certain to be completed successfully.

Two types of diagnostic reading tests were used in project classes. In grades one, two, and three the Comprehensive Instructional Program (CIP) reading test was administered every six weeks. The CIP tests gave the teacher periodic informal evaluation of pupil strengths and weaknesses on twenty-four basic reading skills. The results of the tests were placed on a class reading sheet. This enabled the teacher to pinpoint the weaknesses of each pupil and to gear her instruction toward filling the gaps of specific pupils.

In grades four, five, and six the Stanford Diagnostic Reading Tests were administered twice a year. The results of these tests were placed on class record sheets which covered seven basic reading skills.

The coordinators and lead teachers assisted the project teachers by preparing prescription sheets which diagnosed the results of the tests and gave suggestions for procedures and materials to be used. They helped the teachers become more aware of what skills to strengthened and which pupils to help with specific skills.

Classroom Arrangement

A classroom arrangement, consisting of a mastery center for instruction and five academically oriented interest stations, served to structure the instructional program and concomitantly to free the teachers for more interaction with individual pupils and small groups. Within the mastery center the pupils were divided into three ability groups in which they received instruction and completed academic assignments. While one group received instruction and the second completed assigned tasks, the third group visited the various interest stations which were assigned to foster individual and small group exploratory behavior without direct teacher intervention. The five stations included a library station with books, magazines, and newspapers; an art station with a variety of paints, crayons, and other art materials; a communications station with a Language Master, phonograph, and tape recorder; an exploratory station with an assortmant of science materials keyed to the instructional program; and a games and puzzles station equipped primarily with academically related materials. The materials at the stations were changed or rotated among the classrooms at least weekly by the paraprofessional aides.

Reinforcement System

Since the beginning of the project, the success teachers have used positive reinforcement to improve student conduct and accelerate academic achievement. In addition to praise and other forms of social reinforcement, the teachers rely heavily upon a token system in which either checkmarks on Success Record Cards or tickets are dispensed in the elementary and middle-school classes respectively. The students can exchange their tokens for rewards. The elementary classes are self-contained and the elementary pupils are exposed to positive contingency management throughout each school day. The middle school classes, however, are taught by teams (three teachers per team) so that the pupils are exposed to the contingencies for approximately four hours daily during the mornings while they attend the basic classes taught by the project teachers -- reading, mathematics, social studies, and science. During the afternoons, the middle school pupils attend non-project exploratory classes, such as music, art, and home economics.

Throughout the first day of school (and for several days thereafter in some of the lower primary classes) immediate primary reinforcement (M & M's and hard candy) is paired with praise and token reinforcement contingent upon approximations of desired social conduct, including such behaviors as simply coming to school and sitting at a desk. Enough tokens are distributed within the first two days for every pupil to exchange them for a variety of back-up reinforcers, including

both inexpensive "fun" items and school supplies. During the initial two weeks of school, reinforcement is dispensed on a generally continuous and predictable basis, but, as the desired behaviors are gradually shaped, the tokens are dispensed on more intermittent, less predictable schedules.

In the project's third year, development and refinement of the several aspects of the reinforcement system were completed and implemented. Detailed descriptions of these "finished products" follow:

1. Classroom Rules

Before the inaugural day of the success technique, the success teacher determines several rules of student behavior that are appropriate to her classroom. Every success teacher establishes her own rules with three restrictions: They must be between three and five in number; They must be brief; They must be worded positively -- "Stay on Task" is worded positively, while "Do Not Bother Your Neighborhood" is worded negatively.

A classroom rule clearly states a behavior that the teacher desires in her class and will frequently and consistently reinforce. Here are a few examples of classroom rules that success teachers have used: Pay Attention; Work Hard, Stay on Task; Stay in Your Seat; Stay in Your Area; Raise Your Hand to Speak; Have the Necessary Tools for Work;

Follow Directions; Be on Time. The rules are prominently displayed in the classroom, and, initially, the teacher goes over them with her class every morning. As the students learn to follow the rules, the teacher repeats them less frequently but continues to praise and to reinforce students for following them.

The Project Success teacher uses her classroom rules as a guideline. If she concentrates on consistently and frequently reinforcing her students for following the rules, the teacher can generally ignore the other behaviors and create a reasonably happy and well-ordered class.

Initially, the teacher does not recognize any exceptions to her rules. This keeps the signals clear and unambiguous. Once the students begin to follow the rules regularly, the teacher may then introduce exceptions if she wishes. Thus, a rule such as "Stay in Your Seat" does not have to remain as rigid as it sounds. Exceptions to a rule are possible if the teacher clearly explains the exceptions to her students. For example, she might explain that they may now get up to sharpen their pencils, or to go to the bathroom, or to get a reference book at any time without her permission, if they will return quickly to their seats.

All the teachers who teach the same group of students must agree upon the same classroom rules. Consistency is a crucial aspect of a success environment.

When the success teacher reinforces a student for following a rule, she relates the student's performance to the rule. She is specific about behaviors that students show which constitutes paying attention or working hard. For example: "You watched the board all the time I was presenting the example. That's paying attention." This is called descriptive praise and is essential. Statements like -- "You're a good boy" or "You're so smart" are judgmental rather than descriptive and are undesirable. The teacher is telling the student that she approves of him, but the student may wonder why he's receiving such extravagant compliments. With descriptive praise he knows exactly what he's done that merits praise.

2. Ignore and praise

The single most important operating procedure of the technique is "ignore and praise." If a student is not working or is disrupting the class, the teacher focuses her attention on nearby students who are working well. She descriptively praises each of them for following a class rule, such as "Stay on Task," and possibly presents a token also. The teacher might say: "John, I see you've gotten six problems done already. That's good. That's staying on task. You've earned a token." In this way, she not only reinforces John for working, but she also prompts the correct behavior by the student who is not working and/or being disruptive.

The teacher then continues to watch the difficult student; she catches him following the rule and reinforces this behavior, which is incompatible with this disruption or inattention.

The teacher's descriptive praise of students who are following her class rules is always warm and genuine. However, she doesn't praise every student who is attentive every time she praises one of them. Rather the teacher administers praise unpredictably to a few students at a time who are following her classroom rules. She does this often, even if no one is off-task or disruptive. After giving an initial, brief explanation that reinforcement for following the rules will be unpredictable, the teacher generally ignores complaints from students who feel they've been overlooked. She doesn't want to reinforce complaining by giving attention to it. If the teacher reinforces with sufficient frequency, the students soon learn that following the rules will pay off. Initially, the teacher administers tokens and/or praises about once every minute, with one, two, or three students receiving reinforcement. After the students develop habits of following the rules, the frequency of reinforcement can be cut in half.

In a success classroom, criticism and particularly sarcasm are avoided; but, if the teacher consistently maintains a positive classroom atmosphere with frequent praise, then she may on occasion calmly and firmly remind a student

that he is not following a class rule. When a student is violently, dangerously disruptive or when a student continuously misbehaves so that he does not display any desired behavior that could be reinforced, then some form of punishment is appropriate. Punishment is discussed in detail below, but no form of punishment is likely to be effective for long if the classroom is not a positive environment where following the rules pays off.

3. Activity room

After the first few weeks of the school year, the use of tangible rewards (candy, toys, etc.) is phased out and the students trade their earned tokens for non-tangible reinforcers such as free time at an interest station, special privileges or duties in the classroom or throughout the school, and the opportunity to spend 20 to 30 minutes in an activity room.

There are activity rooms, supervised by project assistants and parents, available for all PSE students. With a large variety of activities available in the room -- e.g. pool table, make-up corner, hot wheels, doll house, record player, etc. -- there is usually something that every student will like. To insure that the rooms continue to be reinforcing, the available activities are periodically changed and occasional surprises are set up in the room.

The students feel that the activity room is their place. Particularly in the upper grades, the students are asked what they want in the room, what they will work for, and the project's staff tries to provide it. At the beginning of the year, when tangible rewards are being phased out, one of the first non-tangible rewards that a student can earn is the opportunity to help decorate the activity room. Every student takes some part in the preparation, and every student gets one free chance to go to the room briefly with his class on the day before the room is first opened as a reward for earned tokens.

4. Academic reinforcement

Conduct behavior that is appropriate in a class at the beginning of the school year remains appropriate throughout the year. Once an initial set of classroom rules of behavior is determined, the teacher can reinforce students for following the rules until they become strongly established as habits. On the other hand, appropriate academic behavior is always changing. It changes with the subject area and with the curriculum materials used; but, most importantly, it constantly changes as each student learns. Thus, the teacher cannot specify one set of appropriate academic behaviors to reinforce throughout the year. Every day, every period, every student needs to be reinforced for different behaviors. It is no simple

matter to develop and implement a reinforcement system that will dramatically improve academic performance. Nevertheless, there are basic procedures outlined below that any teacher can use to systematically reinforce academic performance, regardless of the subject area, the grade level, or the curriculum (if adaptions are made).

The teacher must do three things if she wishes to influence academic behavior:

1. Make sure the student tastes success
2. Always assign doable tasks
3. Evaluate and reinforce frequently and immediately

The first step is getting the student to taste reinforcement and success as a direct result of his own academic behavior. For students with academic histories of D's and F's, this is a critical step. To get a weak or difficult student to taste success, it is often useful initially to give extremely easy, short, academic exercises to complete.

The second step is to consistently provide each student with doable tasks -- work on his level that he can do after a little instruction from the teacher. Academic behavior must occur before the teacher can reinforce it, and, of course, it cannot occur if the student doesn't know how to do the task he is assigned.

As a third and last step, the teacher evaluates and reinforces correct academic behavior frequently and immediately

whenever possible. Evaluating performance immediately, before handing out reinforcement, is essential. The teacher does this in several ways: She goes to a student at work and quickly spot checks a few items at random. If the items are right, reinforcement is given; if too many are wrong, feedback, encouragement, and a promise to return are offered. X'ing mistakes is an outlawed procedure. Alternatively, the teacher selects the first student finished to be a mini-teacher. The mini-teacher uses his own paper, which the teacher has first inspected, to correct the work of the other students. Free, after marking only one paper, the teacher comes by later, quickly glances at the checked papers, and administers appropriate reinforcement; or the mini-teacher himself can immediately reward good work.

5. Inhibition

The ignore and praise procedure, based upon clearly defined classroom rules of conduct with praise supplemented by a token reinforcement system is, in most cases, an effective modifier of conduct behavior in the classroom. However, when undesired behavior is either so intense that students or property are in physical danger or so frequent that there is no incompatible desired behavior to reinforce, then action more immediate and direct than "ignore and praise" is taken to change the behavior.

The kind of action that is approriate is usually called punishment. Within Project Success Environment we are a little hesitant to use the word, "punishment," because it has connotations of retribution and revenge. When we use inhibition (punishment) procedures, the purpose is to inhibit or reduce an undesired behavior. Righteous indignation and anger are not appropriate. In order for inhibition to be effective, it is imperative that the teacher carry out established procedures in a calm, impersonal, matter-of-fact manner. Not only is an angry teacher a model for aggression, but she is also likely to be a reinforcer for undesired behavior if her students enjoy eliciting and viewing her wrath. And, of course, anger indicates lack of command in the classroom.

In many schools, children who are sent from their rooms for disciplinary reasons often end up waiting in the office and many times are used as messengers by the secretary or principal. Teachers, also, often rid themselves of a disruptive student by having him stand in the hall or sending him out of the room on errands. These practices should be discouraged forcefully. A child's "ticket" to special priviledge must <u>not</u> be misbehavior in class.

Misbehavior is either ignored or inhibited from occuring in the future by unpleasant consequences. Insuring that

one of these two actions is consistently taken when unwanted behavior occurs requires two things: (1) cooperation among teachers and cooperation with teachers by other members of the school staff; and (2) a clearly established set of inhibition procedures beginning with ignore and praise in the classroom and including the procedures discussed below.

When unwanted behavior is very frequent or very intense, the teacher's first option is to give the child one warning signal and then put him in time out if the behavior persists. The warning signal always preceeds time out so that it can be used most of the time without the need for time out. When time out is ineffective and the unwanted behavior continues, then the next option is to use a severe token fine. The use of both these procedures is always accompanied by the use of reinforcement of behaviors incompatible with the unwanted behavior.

The following are examples of two different time-out procedures that are used in several Project Success Environment classes:

Time Out Procedure I. As the teacher walks around the room giving praise and checkmarks to those children who are following the class rules, she stops at the desk of a child, who is constantly breaking a rule by

staying out of his seat, and casually picks up his Success Record Card. She keeps the card long enough for the child to miss out on a few checkmarks and only returns it when he is in his seat. Removing the card, or taking away any item that the student has to have in order to receive token reinforcement, is particularly appropriate and effective when the offense is out-of-seat behavior. The time-out from possible reinforcement is a direct consequence in that if the child is out of his seat, any number of things can happen to his possessions. In this situation, the teacher may want to issue a warning signal to the whole class, saying: "If you remain out of your seat (without my permission) you will lose your card and will have to earn it back with good behavior."

Time Out Procedure II. After a child has been warned once and still persists in his misbehavior, he is placed in a time-out "room." (Ideally this is a small room adjoining the classroom that contains only a light and a chair. But usually it is an empty corner of the classroom in which the student is isolated by means of high partitions.) The child is required to sit in the "room" until he is quiet for a predetermined number of minutes (up to 15 minutes depending on grade level), and then he is allowed to return to the class.

No time-out procedure will be effective unless a basically reinforcing environment exists in the classroom.

When time out does not work, and there are inevitably a few hard core cases, a severe fine is the next inhibition procedure. Project Success Environment teachers are understandably reluctant to take tokens away from students once they have earned them. In fact, the only systematic use of fines that has been done has been done by a principal working with students referred to him when time out was ineffective. This principal reports success in reducing the number of referrals.

Summer Training

The training of new teachers for Year III was accomplished in a summer workshop much the same as for Year II (as described in the End-of-Budget Period Report FY 1972). Briefly, training consisted of three weeks (half day sessions) devoted to: (a) the theory behind positive contingency management; (b) practicum applications of the theory; and (c) guidance with curriculum. Two innovations were incorporated into the summer training for Year III. First, teachers were placed on a criterion referenced contract to read theory related materials. Teachers received extra pay (1 hours/day) if they read assigned units in Becker, Engelman, and Thomas 's Teaching A Course in Applied Psychology and passed (with 100 per cent accuracy) a test based upon these materials. Teachers failing to meet criterion could retake the test later in the

workshop and if successful earn the extra pay. All teachers passed all tests before the end of the workshop and most were prepared and passed the tests on the first attempt. The second innovation involved some use of modeling and role playing. Project staff and experienced project teachers would demonstrate in a role playing situation a particular concept. Teacher trainees were then asked to analyze and discuss the demonstration. As for Year II, experienced teachers participated in the training of new teachers. The experienced teachers helped present theory, led small discussion groups on practical applications, and served as demonstrators of the technique in live classrooms. All new teachers also practiced the technique in live classrooms under the supervison of project staff and experienced teachers.

Measures of Pupil Variables

The effects of the success technique on the project pupils were measured in two general areas: classroom behavior and academic achievement.

Classroom Behavior

Pupil behavior in the classroom, or conduct, was assessed by means of systematic observations conducted in select experimental (project) and control classes. Observations were made in each class once every two weeks between September and April, except during holiday periods. Trained paraprofessional observers collected data for attention behavior (i.e. per cent of students attending to assigned academic tasks) and disruptive behavior.

Disruption. During 15 minutes, the data-gatherer continuously scanned the entire class for instances of disruptive pupil behavior. In general, disruption encompassed any unsolicited pupil behavior serving to distract other pupils from academic tasks: talking or being out of seat without permission; generating loud noises; and disturbing other pupils either verbally, or by means of physical contact, or by handling another pupil's possessions. A single pupil could not be observed for disruption more often than once every ten seconds. The criterion measure was the average number of disruptions per pupil per 15 minutes, obtained by dividing the total number of disruptions recorded by the number of pupils present during the observation session.

Attention. The attentive behavior of the pupils in a class was observed while they were assigned academic tasks. Each pupil was observed separately one time only for 20 seconds. The data-gatherer recorded the number of seconds during when the pupil was off-task; i.e., during each 20-second interval the behavior of one pupil was observed and the amount of time apparently devoted to other than academic tasks was recorded. Each pupil observed was classified as INVOLVED (0-5 seconds off task), MEDIUM INVOLVED (6-15 seconds off-task), or UNINVOLVED (16-20 seconds off-task). The criterion measure was the percentage of time on-task for the entire class, calculated by adding the number of pupils classified as INVOLVED to one-half of the number classified as MEDIUM INVOLVED,

then dividing the sum by the total number of pupils observed, and multiplying the quotient by 100.

The measures of disruptive and attentive behavior used in Year III contained a few refinements but were essentially equivalent to those utilized during Year II of the project.

Academic Achievement

The California Achievement Tests (CAT) in reading and arithmetic were given at all grade levels to measure academic achievement. In addition, the Comprehensive Instructional Program Diagnostic Test (CIP) were given to grades one, two, and three. The CIP tests were developed locally by the Atlanta Public School System to assess students' acquisition of specific reading skills. In addition to its use as a diagnostic instrument (see Curriculum, page 44 of this report), the CIP was administered to all project and control students in the first three grades to determine gains made in reading skills.

Measures of Teacher Behavior

During the period from September, 1972, through April, 1973, teacher behavior was monitored in the classroom to determine the extent to which the success technique was being applied. The frequency of teacher reinforcement and punishment was observed and recorded by trained paraprofessionals in select experimental and control classes once every two weeks, except during holidays.

The average number of positive reinforcements administered per student in a 15-minute period constituted a criterion measure, which was obtained by dividing the total number of reinforcements

administered by the number of pupils present during the observation session. A second criterion measure consisted of the total number of instances of punishment.

Teacher behavior which was recorded as positive reinforcement included verbal praise, positive physical contact, granting of privileges, and administration of tangible rewards such as candy or tokens (which were administered only in the experimental classes). Punishment included criticism stated explicity or implicity through threats of consequences, voice tone, or facial expression, aversive physical contact with pupils, withdrawal of pupil privileges, and isolation of pupils

The measures of reinforcement and punishment in Year III contained a few refinements but were essentially equivalent to those utilized during Year II of the project.

Other Measures

Four locally developed questionnaires were administered as a less formal means of evaluation. The parents of project pupils, the principals of project schools, the project teachers, and the project pupils, themselves, were requested to respond to anonymous questionnaires concerning their reactions to the project.

Testing Procedures

In-Class Observations

Five black, female, paraprofessional data-gatherers, trained by the project evaluator, systematically observed teacher and pupil behavior. Four of these five observers had collected similar data

during Year II of the project. Throughout the school year, in-class observational data were collected unpredictably once every two weeks.

Observation procedures were refined during Year III so that the observation period lasted only 30 minutes, instead of the 45 minutes required using the Year II procedure. This reduction in time was accomplished by observing and recording the frequency of student disruption and the frequency of teacher reinforcement and punishment all at the same time. The observer began recording reinforcement, punishment, and disruption for seven and one-half minutes, switched to attention for approximately 15 minutes, and then completed the observation of reinforcement, punishment and disruption for another seven and one-half minutes. The observation was split in order to obtain a more typical sample of behavior. There was no reduction in reliability as a result of these procedural refinements.

Observation periods were varied from morning to afternoon. Class time not devoted to academic activity was not appropriate for observation. Further, if for some reason -- such as a principal's voice over the intercom or the arrival of visitors into the classroom -- academic activity was interrupted, the observation stopped until academic behavior was again the appropriate behavior for the class.

While in the class for the purpose of obtaining data, observers were not to interact with the class or the teacher any more than

was absolutely necessary. It was desirable that the class come to ignore the observer and take her presence for granted.

Inter-rater Reliability. Reliability coefficients were obtained for the five data-gatherers by comparing the observations of each data-gatherer with the observations made by each of the other data-gatherers' and with the observations made by the Project Evaluator. The coefficients, based on 10 to 14 common observations, are presented below in Table 2. The majority of the coefficients are above .80. The median r's for reinforcement, punishment, disruption, and attention respectively are .97, .65, .96, .82. Agreement concerning punishment was low because there was little punishment to observe.

Achievement Testing

California Achievement Tests (CAT). All project pupils in grades 2-5 were given the California Achievement Tests (CAT) in Reading and Arithmetic as a pretest in September and as a posttest in April. In addition, pupils were randomly selected from each grade level (2-5) at the control school and were also given the CAT as a pre- and posttest. The random sample of control pupils was approximately two-thirds as large as the number of project pupils tested. One or two of the control teachers were chosen at each grade level to administer the tests.

At the middle school (sixth grade) a random sample of both project and control pupils was selected and given the CAT as a pre- and posttest in September and April respectively.

TABLE 2

IN-CLASS OBSERVATIONS INTER-RATER RELIABILITY 1972-73
r's based on 10-14 common observations

A

TEACHER REINFORCEMENT

Observer		A	B	C	D	E	F
(Persons)	A*	1	.97	.97	.97	.96	.96
(Ware)	B		1	.96	.96	.94	.96
(Thomas)	C			1	.97	.99	.99
(Chaney)	D				1	.96	.98
(Williams)	E					1	.99
(Ramsey)	F						1

B

TEACHER PUNISHMENT

Observer		A	B	C	D	E	F
	A*	1	.30	.71	.62	.71	.70
	B		1	.65	.82	.85	.53
	C			11.00		.65	.54
	D				1	.56	.41
	E					1	.54
	F						1

C

STUDENT DISRUPTION

Observer		A	B	C	D	E	F
	A*	1	.96	.98	.97	.94	.95
	B		1	.97	.99	.93	.88
	C			1	.97	.98	.94
	D				1	.91	.92
	E					1	.91
	F						1

D

STUDENT ATTENTION

Observer		A	B	C	D	E	F
	A*	1	.78	.74	.78	.87	.83
	B		1	.79	.90	.92	.82
	C			1	.82	.84	.70
	D				1	.80	.72
	E					1	.88
	F						1

* Observer A was the project Evaluator.

Again the control sample was approximately two-thirds as large as the project sample.

First grade pupils, both project and control, received only the posttest on the CAT in April. Only the posttest was given since entering first grade pupils do not generally have the skills necessary for minimum performance on an achievement test. The number of first grade pupils tested was approximately the same for both the project and the controls.

The following levels of the CAT were given to each of the above mentioned levels:

Lower primary - First and second grades

Upper primary - Third and fourth grades

Elementary - Fifth and sixth grades

Other Measures. Informal questionnaires were devised to determine the views of teachers, principals, pupils and their parents to Project Success. All questionnaires were administered anonymously. The principals and teachers were given their questionnaires by the Research Assistant and were asked to return them either to the Research Assistant or to one of the project's Coordinators. The pupils were given their questionnaires by the two project Coordinators and the two Lead Teachers. These questionnaires were administered in the classroom setting and the questions were read out loud to facilitate understanding. In addition, each pupil was given a questionnaire to take home to his parents. The pupils were reinforced with candy for returning their parents' questionnaire.

RESULTS AND DISCUSSION

Effect of the Experimental Treatment on the In-Class Behavior of Project Pupils

In Fiscal years I and II, project staff demonstrated in systematic research that the success technique altered the behavior of project pupils in the classroom relative to their own prior behavior (Appendix D, End-of-Budget Period Report, FY 1972) and the behavior of appropriate comparison classes (Appendix A, End-of-Budget Period Reports FY 71 and FY 72). Project pupils were fifty per cent less disruptive than comparison pupils and their percentage of time involved in assigned academic activities reached about 88 per cent relative to 55-65 per cent involvement for controls. These differences were maintained throughout both school years.

Figure 1 presents the in-class observations of project pupils at middle and elementary levels for Year III. Figure 1 also includes data for elementary controls collected in Year II and middle school controls collected in Year III. It is clear from the curves in Figure 1 that project pupils continued to maintain a reduced level of disruption and a high percentage of time on assigned tasks. The data for Year III, then, appear to be entirely consistent with the findings from Years I and II. Since these findings were firmly established in Years I and II, the focus for Year III concerned

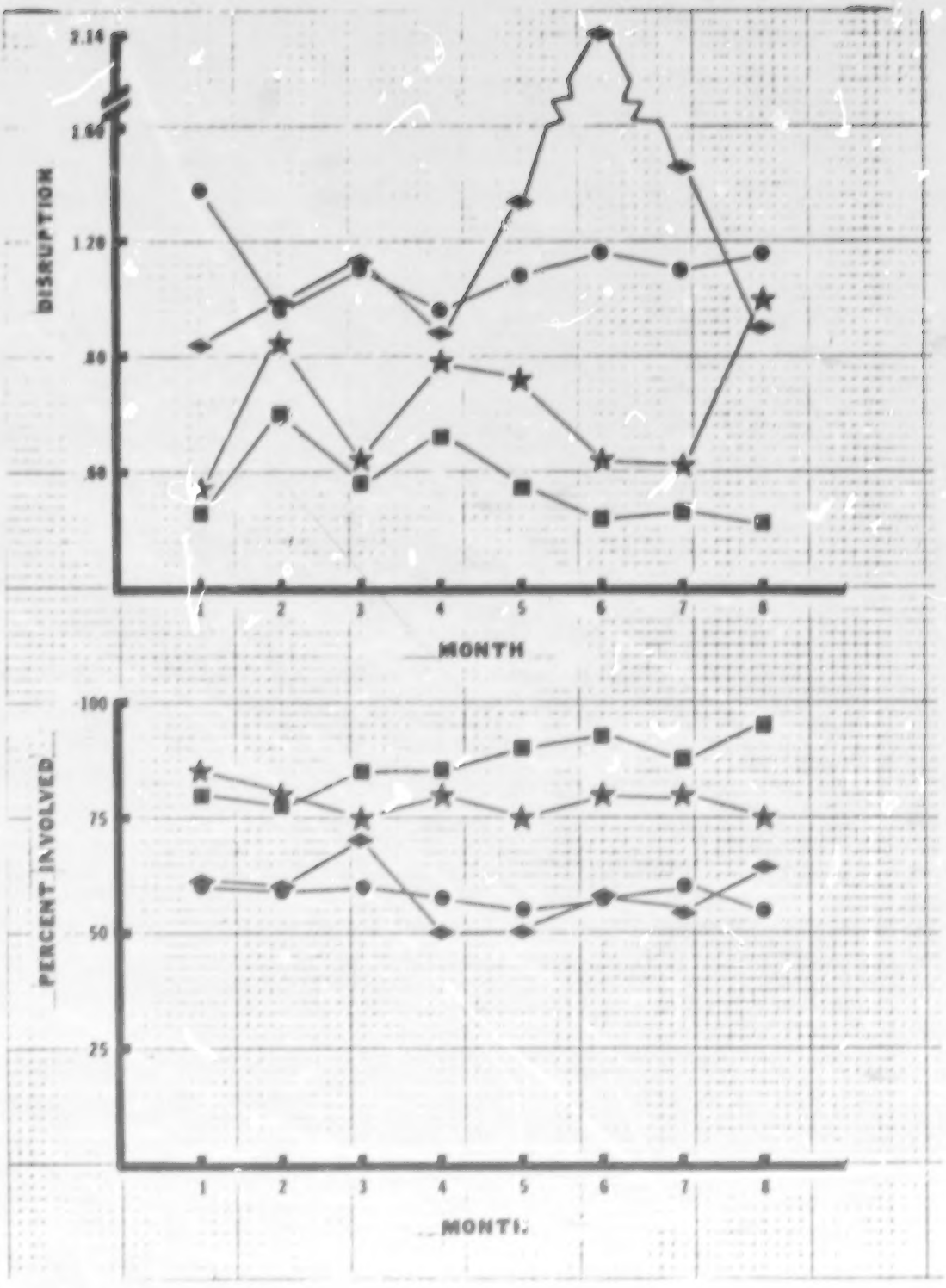

Figure 1. Mean frequency of disruptions and mean per cent involved for Year III middle school project (■) and control (◆) pupils for Year III elementary project pupils (★) and Year II elementary control pupils (●).

other hypotheses that are discussed below. No statistical analyses were run on the data presented in Figure 1.

Project staff attempted in Year III to seek answers to two additional questions concerning in-class behavior. First, it is possible that the results obtained for Years I and II were caused in part by the fact that observations were frequent, occuring two to four times per week in each class. In order to provide a check on this possibility, project teachers were observed less frequently in Year III. Observers collected data on project classes about twice a month in Year III. If less frequent observations have little or no effect, then the in-class behavior of pupils during Year III should be comparable to the behavior of pupils in Year II. The mean number of disruptions per student and mean per cent time on task as a function of Year II versus Year III and middle versus elementary level are presented in Table 3 for eleven teachers participating in the project in the second and third year. Means for elementary and middle school classes are presented separately. The elementary-level data presented in Table 3 represent means for six classes with three blocks of data collected per class; one block in October, one in January, and one in May. Each block is an average for three to four 45 minute observation periods. The middle-level data represent means for five classes with eight blocks of data per class (one block each month of the school year).

TABLE 3

MEAN DISRUPTIONS AND MEAN PER CENT INVOVLED FOR PUPILS IN PROJECT CLASSES IN YEAR II AND YEAR III BY GRADE LEVEL

	Mean Disruptions	Mean Per Cent Involved
Elementary Level		
Year II	.31	.83
Year III	.40	.79
Middle Level		
Year II	.29	.90
Year III	.35	.87

The elementary and middle level data were analyzed separately by analysis of variance with year and blocks as independent variables. At the elementary level, Year II disruptions were slightly lower than for Year III but this difference was not significant $F\ (1,5) = 2.64$, ns. Year II pupils were also slightly more involved in assigned tasks. However, this difference also failed to reach significance, $F\ (1,5) = 1.45$, ns. Per cent involved was low at the beginning of Year II (79 per cent) and increased throughout the year (82 per cent). However, for Year III, per cent involved was high at the beginning of the year (85 per cent) and dropped off slightly across the year (79 per cent), $F\ (2,10) = 9.47$, $p < .01$.

At the middle school level, the overall level of disruptions in Year II was also lower than for Year III $F\ (1,5) = 3.45$, $p < .05$. This difference was primarily a result of differences occuring

early each year. Disruptions in the first few blocks of Year III were reliably higher than for these same blocks in Year II. However, by the fifth block, Year III disruption dropped to the level of Year II and subsequently to an even lower level than for Year II, $F\ (7,28) = 2.88$, $p < .05$.

For per cent on-task at the middle level, there was a reliable difference between Year II and Year III, $F\ (1,4) = 6.40$, $p < .10$. Pupils were, on the average, on task more often in Year II. However, the advantage for Year II occured primarily during the first few months. By the fifth block, per cent on task for Year III was higher than for Year II and remained equal to or higher than for Year II for the remainder of the year, $F\ (7,28) = 2.54$, $p < .05$.

These data, taken as a whole, indicate that pupil behavior during the third year was as good as pupil behavior for Year II, particularly for the latter half of the school year. This suggests that one may substantially reduce the absolute number of in-class observations without adversely affecting the effectiveness of the technique.

A second question addressed in Year III was to determine if inexperienced teachers can operate as effectively as experienced teachers. In order to examine this question, the behavior of pupils in classes with experienced teachers (at least one year

in the project) were compared to pupil behavior in classes with inexperienced teachers. These comparisons are presented in Table 4 for disruption and per cent involved at both middle and elementary levels.

TABLE 4

MEAN DISRUPTIONS AND MEAN PER CENT INVOLVED FOR PUPILS IN PROJECT CLASSES CONDUCTED BY EXPERIENCED AND INEXPERIENCED TEACHERS BY GRADE LEVEL

		Disruptions/ Student	Per Cent Involved
Elementary Level	Experienced	0.71	0.78
	First Year	0.38	0.89
Middle Level	Experienced	0.35	0.89
	First Year	1.44	0.68

The means in Table 4 were analyzed by analysis of variance with Experience (2), Grade Level (2), and Block (8) as factors. A separate analysis was computed on disruption and per cent involved. As is evident in Table 4, pupils in the classes of inexperienced teachers at the elementary level did as well as or better than pupils in experienced teachers' classes on both disruptions and per cent involved. On the other hand, at the middle level, pupils in classes of experienced teachers clearly out performed pupils in the classes of inexperienced teachers.

These two observations are reflected in the interactions of grade and experience for both disruptions, $F\ (1,11) = 42.97$, $p < .01$, and per cent involved, $F\ (1,11) = 15.12$, $p < .05$. This result may be important. Project staff have observed that it is more difficult to implement the success technique with older children. By the time a child reaches sixth grade, he has had extended experience with school. If this experience has been predominantly negative rather than positive, considerable time would be required to overcome these expectations. Furthermore, the teachers of older children may need more time and experience to apply the success technique effectively to children with extended histories of failures.

In-Class Observations -- Teacher Behavior

Figure 2 presents the data on frequency of reinforcement and punishment delivered by project teachers throughout Year III for middle and elementary schools. Figure 2 also graphs these data for elementary controls from Year II and for middle school controls from Year III. It is evident in Figure 2 that project teachers in Year III reinforced with high frequency and punished with low frequency relative to controls. These data are consistent with in-class behavior of project teachers for Years I and II.

Table 5 presents data comparing teacher behavior in Year II to their behavior in Year III. These data were analyzed to

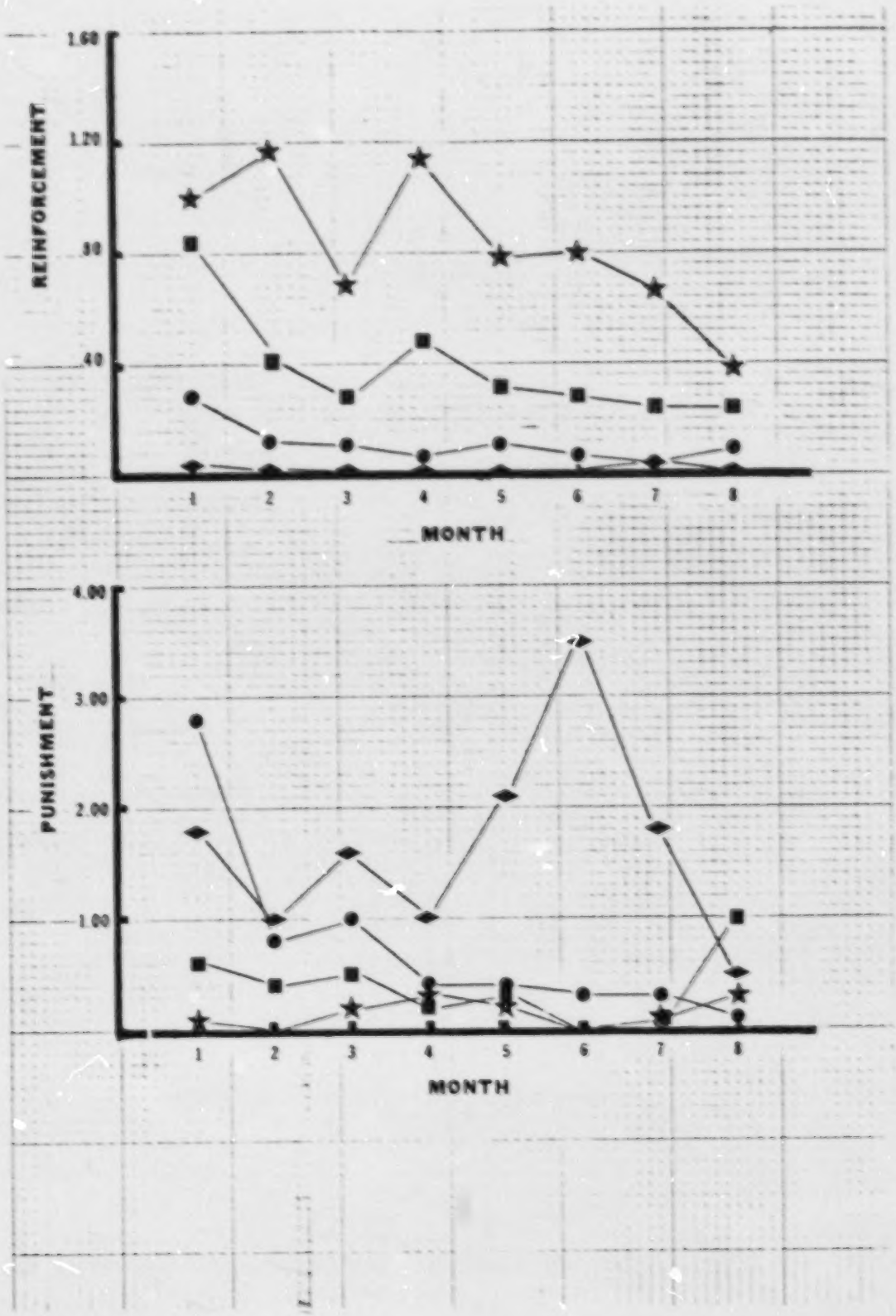

Figure 2. Mean frequency of reinforcements/student and mean frequency of punishment for Year III middle school project (■) and control (◆) teachers and for Year III elementary project teachers (★) and Year II elementary control teacher (●).

determine if a reduction in the number of observations (from twice a week in Year II to twice a month in Year III) affected teacher performance. Separate analyses of variance were run on reinforcement and punishment at the elementary and middle levels.

TABLE 5

MEAN REINFORCEMENTS/STUDENT AND MEAN TOTAL PUNISHMENTS DELIVERED BY PROJECT TEACHERS DURING YEAR II AND YEAR III BY GRADE LEVEL

		Reinforcements/ Student	Total Punishments
Elementary Level	Year II	1.55	0.31
	Year III	0.78	0.11
Middle Level	Year II	0.65	0.42
	Year III	0.39	0.39

At both elementary and middle levels, teachers reinforced more frequently in Year II than Year III, F (1,5) = 9.67, $p < .05$, F (1,4) = 18.08, $p < .10$, respectively. Teachers also punished more frequently in Year II than Year III at both elementary and middle levels but these differences were not reliable, F (1,4) = .49, ns, respectively. These data suggest that teacher behavior was altered somewhat by less frequent observation. In particular, they delivered reinforcement about one-half as

often as with frequent observation. It is important to note, however, that project teachers continued to reinforce at a much higher rate than they punished and that pupil behavior in Year III (see pupil behavior above) did not change from Year II to Year III.

A comparison of reinforcement and punishment frequency was also made between experienced and inexperienced teachers during Year III. These results are presented in Table 6. Inexperienced teachers at both elementary and middle levels reinforced more frequently than experienced teachers.

TABLE 6

MEAN REINFORCEMENT PER STUDENT AND MEAN TOTAL PUNISHMENTS DELIVERED BY EXPERIENCED AND INEXPERIENCED TEACHERS DURING YEAR III BY GRADE LEVEL

		Reinforcements/ Student		Total Punishments
Elementary Level	Experienced		0.90	0.15
	Inexperienced	1.13	1.13	0.15
Middle Level	Experienced		0.39	0.39
	Inexperienced		0.74	0.61

However, this difference was not statistically reliable, F (1,11) = 2.62, ns. It is also clear in Table 6 that overall, elementary teachers reinforced more frequently than middle school teachers, F (1,11) = 5.14, $p < .05$. Experienced and inexperienced teachers did not differ overall

in the frequency of punishment delivered, F (1,11) = 0.62, ns. However, inexperienced teachers tended to punish more than experienced teachers during the latter part of the year, F (7,77) = 3.01, $p < .05$. Thus experienced and inexperienced teachers differed little in their delivery of reinforcement or punishment.

Academic Achievement

During Year III of Project Success Environment, emphasis continued to be placed on the reinforcement of academic achievement. Since significant academic gains had been obtained during Year II of the project's operation, it was anticipated that the project would again make academic gains. Thus, it was hypothesized that the gains made by project pupils would again exceed the gains made by control pupils over the same period of time. Consequently, gain scores made on the California Achievement Tests (CAT) between September and April were obtained for both project and control pupils. The gain scores in reading and arithmetic made by project and control pupils were compared for statistically significant differences. Performance of project and control pupils in grades one through three on the Comprehensive Instructional Program Diagnostic Tests (CIP) was also compared.

CAT Reading Achievement. The mean pretest (September), posttest (April) and gain (posttest minus pretest) scores for reading are reported in Table 7 for project and control pupils

in grades two through six. The gains made in reading by project pupils exceeded the gains made by control pupils in every grade except the third grade. In all instances (except the third grade) the project pupils gained at least one month for every month in the project.

TABLE 7

TOTAL READING
CALIFORNIA ACHIEVEMENT TESTS

	Project				Control			
Grade	N	Pre	Post	Gain	N	Pre	Post	Gain
First	45	--	1.8	0.8	33	--	1.4	0.4
Second	28	2.0	2.9	0.9	38	1.5	2.1	0.5
Third	22	2.8	3.1	0.3	14	2.5	3.0	0.5
Fourth	95	3.2	3.9	0.7	35	3.4	3.7	0.3
Fifth	40	4.0	4.7	0.7	39	3.7	4.1	0.4
Sixth	76	4.4	5.1	0.7	51	3.7	4.2	0.5
Mean				0.70				0.46

A three-way analysis of variance (Treatment x Grade x Sex) performed on the gain scores indicated that the gains made by the project pupils were highly significant, $F\ (1,419)=10.17$, $p < .01$. In addition, a significant grade and a significant sex effect were also found. This indicates that some grades (for both project and control classes) gained more than other grades and that females (in both project and control classes) gained more than males.

The total reading test scores on which the analysis of variance was performed is composed of two subtests: vocabulary and comprehension. The total reading score is a composite of these two subtest scores. Consequently, the total reading score reflects the pupils composite achievement in both vocabulary and comprehension.

First grade pupils received the CAT reading achievement test in April only. A pretest was not given since entering first grade pupils are generally unable to read. Consequently, a comparison was made between the mean posttest scores made by the project and control pupils.

Table 7 also presents the mean posttest reading scores for first grade project and control pupils. As may be seen, the mean grade equivalent in reading for project pupils was 1.8 as compared to the mean of 1.4 for control pupils. An analysis of variance (Treatment x Sex) indicated that this difference in posttest scores was highly significant $F\ (1,74) = 11.12$, $P < .01$. Thus, after completing the first grade, project pupils were significantly more advanced in reading achievement than a comparable group of control pupils.

CAT Arithmetic Achievement. The mean grade equivalent scores made in arithmetic on the CAT pretest and posttest, as well as the mean gains are presented in Table 8 for grades two

through six. Project pupils gained significantly more in arithmetic than control pupils at all grade levels except the second grade. Again, the project classes gained at least one month for each month in the project with one exception (the second grade).

TABLE 8

TOTAL ARITHMETIC
CALIFORNIA ACHIEVEMENT TESTS

		Project				Control		
Grade	N	Pre	Post	Gain	N	Pre	Post	Gain
First	45	--	1.7	0.7	33	--	1.6	0.6
Second	28	2.0	2.3	0.3	39	1.5	1.9	0.4
Third	22	2.7	3.6	0.9	14	2.5	3.1	0.6
Fourth	95	3.4	4.2	0.8	35	3.3	3.8	0.5
Fifth	40	4.6	5.3	0.7	39	4.3	4.7	0.4
Sixth	76	4.9	5.6	0.7	51	4.7	5.3	0.6
Mean				0.73				0.52

An analysis of variance (Treatment x Grade x Sex) performed on the gain scores indicated that these differences in arithmetic gains were also statistically significant, $F(1,419) = 8.71$, $p < .01$. In addition, grade and sex effects were also significant indicating again that some grades gained more than others and females gained more than males.

Since the total arithmetic score is a composite of the arithmetic fundamentals and arithmetic reasoning subtest scores, this score reflects the pupils' composite achievement in both arithmetic fundamentals and reasoning.

As in reading, the first grade pupils received only the arithmetic posttest on the CAT. The mean posttest grade equivalents are also presented in Table 8. As may be seen, project pupils had a mean posttest grade equivalent of 1.7 as compared to the 1.6 made by the controls. A two-way analysis of variance (Treatment x Sex) indicated that this difference was not statistically significant, $F\ (1,74) = 1.05$, ns.

In summary, Project Success Environment was successful in promoting academic achievement in Year III of its operation just as it had been in Year II. Project pupils, in general, gained significantly more in both reading and arithmetic than a comparable group of control pupils gained over the same period of time. In addition, project pupils were also successful in achieving at least one month's gain in both reading and arithmetic for each month that they participated in the project. During Year II of the project's operation project pupils gained an average of 6.9 months on the California Achievement Test (CAT) in reading compared to the 3.4 months gained by controls. During Year II project pupils gained 7.0 months in reading compared to the 4.6 months gained by controls. Arithmetic gains made during Year III also substantiate the findings of Year II. In arithmetic project pupils gained 6.5 months during Year II compared to the 3.9 months gained by controls. During Year III project pupils gained an average of 7.3 months in arithmetic achievement

while the controls gained only 5.3 months. Thus, the findings related to academic achievement in Year III replicated the findings of Year II and further substantiates the hypothesis that Project Success does, in fact, have a beneficial effect on academic achievement for both elementary and middle school pupils.

Comprehensive Instructional Program (CIP) Diagnostic Tests. The CIP diagnostic tests were also used to measure and compare the academic performance of project and control pupils in grades one, two, and three. These tests are administered city-wide to pupils in the first three grades to provide diagnostic information regarding 24 different reading skills. The pretest performance used consisted of the number of tests passed (according to the criterion of ninety per cent correct responses) in October. The posttest performance consisted of the number of tests passed (according to the same criterion) in April. Gain scores were obtained by subtracting the number of tests passed in September from the number passed in April.

Table 9 presents the mean gains in number of diagnostic tests passed by project and control pupils at each of the three grade levels. Although the project pupils passed more tests at the first and second grade levels, the overall gains made by the project pupils were not statistically greater than the gains made by control pupils, $F\ (1,160) = .13$, ns.

TABLE 9

MEAN GAINS IN COMPREHENSIVE INSTRUCTIONAL PROGRAM'S (CIP) DIAGNOSTIC TESTS PASSED BETWEEN OCTOBER AND APRIL

Grade	N	Project	N	Control
1	44	7.1	28	6.8
2	26	6.8	37	6.6
3	17	4.9	20	5.2

Other Measures

Pupil Questionnaires

Elementary pupils. One-hundred-and-ninety-eight elementary school project pupils completed all or portions of the attached questionnaire (see Table 10). Most of the elementary pupils (91 per cent) indicated that they would like to be in a project class again. Nearly all of the pupils indicated that they liked school and the things associated with school -- reading group (77 per cent), arithmetic (84 per cent), teacher (94 per cent), and classmates (94 per cent) --and that they felt positive towards the project's reinforcement systems -- rewards (94 per cent), checkmarks (93 per cent). However, a large proportion of the elementary school students indicated that they would work as hard if they weren't in a project classroom (88 per cent). While the number of students was small, it is interesting to note that

TABLE 10

PROJECT SUCCESS ENVIRONMENT
EVALUATION BY PROJECT PUPILS
ELEMENTARY SCHOOL

1. What grade are you in?_____

2. Would you like to be in a Project Success class next year? 182 Yes 16 No

3. Would you work as hard if you were not in a Project Success class? 176 Yes 22 No

4. Please check the things you liked about school this year.

Rewards	188
Interest stations	170
Tickets or checkmarks	186
Teacher	187
Classmates	185
Activity room	188
Trips	191
Reading group	154
Getting sent to the principal	22
Giving the teacher a hard time	30
Arithmetic	167

5. Please check the things you did not like about school this year.

Rewards	12
Interest stations	79
Tickets or checkmarks	13
Teacher	21
Classmates	16
Activity room	11
Trips	10
Reading group	30
Getting sent to the principal	103
Giving the teacher a hard time	94
Arithmetic	27

6. Write down three things you did to earn checkmarks.

7. What did your teacher do when someone in the class was bad?

8. What would you like to have changed in school?

some students felt positive about getting sent to the principal (11 per cent) and giving the teacher a hard time (15 per cent).

The responses to item 6 ("Write down three things you did to earn checkmarks") indicate that the children were indeed aware of what the technique asked them to do -- "raise your hand", "do your work", "being quiet", "make a good grade", "going by the rules", "answer questions". The pupils responses to item 7 ("What did your teacher do when someone in the class was bad") were disappointing. It had been expected that the students would respond that the teacher ignored their disruptive behavior. However, the answers were mostly statements like: "she takes up your card," or "she won't let you have P.E." A few statements suggest that occasionally teachers reverted to more traditional methods of inhibiting undesirable behaviors ("hit you", "send to office"). In retrospect, it is not very surprising that the pupils did not report that the teacher ignored inappropriate behavior since to the child this technique may just be too subtle for him to identify. A pot pourri of responses were given to item 9 ("what would you like to have changed in school"). These included" "everythin"; "my desk"; "nothing"; and "the lunch."

Middle School Pupils. In general the responses made by the middle school pupils to the questionnaire followed the same patterns as those made by the elementary pupils (see Table 11).

TABLE 11

PROJECT SUCCESS ENVIRONMENT
EVALUATION BY PROJECT PUPILS
MIDDLE SCHOOL

1. What is a Project Success classroom?

2. Did you have fund in school this year? Yes 146 No 47

3. Would you work as hard if you were not in a Project Success class?
Yes 146 No 44

4. Please check the things you liked about school this year?

Rewards	173
Interest stations	130
Tickets or checkmarks	162
Teacher	116
Activity room	172
Classwork	109
Trips	158
Making fun of the teacher	180
Cutting class	2
Shooting rubber bands	3
Other	7

5. Please check the things you did not like about school this year?

Rewards	22
Interest stations	39
Tickets or checkmarks	24
Teacher	72
Activity room	23
Classwork	64
Trips	20
Homework	100
Getting sent to the principal	135
Other	63

6. What would you like to have changed in school?

7. Was your teacher mean or nice to you and your class this year?
Mean 58 Nice 131

8. Did your teacher yell at you this year? No 43 A little 124 A lot 46

9. Write down three things you did to earn checkmarks.

10. What did your teacher do when someone in the class was bad?

Again a majority of the pupils indicated that they enjoyed school in general -- fun in school (75 per cent), teacher (60 per cent), classwork (56 per cent) -- and nearly all indicated that they felt positive towards the project's reward system.

Items 1 and 9 on the questionnaire were inserted to assess whether the students were aware of the differences between their project class and other classes. The responses given by the children indicated varying amounts of awareness but, in general, they indicated a surprisingly high level of awareness of the objectives of the success technique. A number of children focused on the concrete aspect of the reinforcement system, i.e. the tickets, and the activity room. Moreover, many were aware that tickets were earned and that appropriate behaviors earned the tickets. In some sense the students' awareness of the objectives of the reinforcement system can be taken as an indication of that system's success. Items 7 and 8, which direct questions concerning the student's perception of his teacher's behavior, indicated that, on the whole, the students held a positive view towards the project teachers.

Conclusions:

Taking the elementary and middle school pupils together, the responses they made to the questionnaire were both enlightening and encouraging. Both groups indicated that they enjoyed being

part of a success environment and an overwhelming percentage of the students indicated that the rewards offered by the system were effective incentives.

The most intriguing results, however, concerned the students' awareness of the reinforcement contingencies employed by the success technique. A large number of both elementary and middle school pupils revealed that they were aware of the relationship between certain behaviors and the rewards obtainable by performing these behaviors. This awareness indicates that the success teachers clearly presented the contingencies to their students and then reinforced the desired behavior consistently.

It is interesting to speculate on the possibilities for future study for student awareness of contingencies. For example, it may be found that when children can verbalize what they need to do in order to earn reinforcement they may behave more frequently in a manner that leads to their reinforcement. There may, in other words, be a positive correlation between the child's awareness of what the system has asked (and reinforced) of him and how well, or how often, he does it.

Teacher Questionnaire

Fourteen of the nineteen project teachers completed all or portions of the attached questionnaire (see Table 12). The following summary statements are based upon the replies of these fourteen respondents.

TABLE 12

PROJECT SUCCESS ENVIRONMENT
Evaluation by Project Teachers

We need your opinions about the impact of the success technique on your pupils, so that we can refine the technique to increase its effectiveness. Please respond to the following questions by checking the answers that seem most appropriate to you. Please do not put your name on this questionnaire.

	Definitely Yes	Generally Yes	Neutral or No Effect	Generally No	Definitely No
1. Do you feel that the program has been detrimental to your students?				4	10
2. Do you think tangible rewards are necessary for program implementation after the first week or so of school?	4	1		7	1
3. Do you feel that the activity room is a valuable component of the program?	4	8	1		1
4. Do your pupils respond to activity reinforcers?	3	9	1		
5. Do you feel that the activity reinforcers should be more academically oriented?	6	3	3	1	
6. Have the interest stations been a valuable component of the program?	5	2	2	5	
7. Do you believe your attempts to reward "good" pupils and ignore misbehaving pupils have been effective in maintaining classroom control?	5	7	2		
8. Do you think punishment is necessary in your classroom?	1	6	2	4	1
9. Do you feel that punishment is more effective than positive reinforcement in promoting classroom discipline?		3	2	5	4
10. Do you feel that punishment is more effective than positive reinforcement in promoting academic achievement?		1	1	5	7
11. Do you object to the presence of the data-gatherers in your classroom?		1	2	3	8
12. Does the presence of the data-gatherers cause you to teach differently?		1	1	4	8
13. Do you continue to use the principles of positive reinforcement when the data-gatherers and others are not present in your classroom?	9	5			

	Definitely Yes	Generally Yes	Neutral or No Effect	Generally No	Definitely No
14. Have the services of the project coordination been of value to you?	6	5	3		
15. Do you feel that the members of the project staff give you enough support?	3	9	[illegible]	1	
16. Do you find it difficult to apply the success technique consistently throughout each school day?	1	1	1	6	5
17. Are there particular times of the day or particular days of the week when program implementation is especially difficult. If so, when_____	1		1	12	
18. Is program implementation especially difficult in any particular subject or content area? If so, what _____ _____	1		1	11	1
19. Do you find teaching easier using the success technique?	7	4	2	1	
20. Do you feel that you could apply the success technique without the back-up support of the project staff?	5	7	1	1	
21. Would you volunteer to participate in the project if absolutely no pressure was applied on you to do so?	8	3	3		
22. Would you recommend the success technique to a friend having discipline problems with his or her pupils?	9	3	2		
23. Would you recommend the success technique to a friend who wishes to obtain greater academic gains from his or her pupils?	8	4	2		
24. Would you attempt to continue using elements of the success technique if the project were terminated?	9	5			

Effects on pupils. All of the responding teachers indicated that the program had no detrimental effect on the students. The teachers' responses to items seven and twenty-two indicated that generally the success technique's program of ignore and praise was generally considered effective in maintaining classroom discipline and that they would suggest the technique to another teacher experiencing discipline problems. In addition to discipline, the teachers also indicated that they would recommend the success technique to a teacher wishing to obtain greater academic gains from his/her children. This suggests that the teachers also considered the technique effective in accelerating academic achievement.

Effects on Teachers. Nearly all of the responding teachers indicated that the technique made teaching a more pleasant job (80 per cent). More importantly, however, the teachers overwhelmingly indicated that they (a) used the principles of positive reinforcement when not monitored by the project data-gatherers and when others were not present and (b) would continue using elements of the success technique if the project were terminated.

Program Implementation. Only two of the respondents said that they found it difficult to apply the success technique consistently throughout the school day, and only one stated that there were particular times of the day, or days of the week, when implementation was especially difficult. Only one teacher indicated that a subject

or content area made implementation difficult. This teacher said that science presented some problems in implementation.

Positive Reinforcement. The teachers were somewhat split on the issue of tangible rewards. Slightly less than half maintaining that tangible rewards were necessary after the first week of implementation while the majority thought that tangible rewards were not necessary.

Nearly all of the teachers indicated that the activity room was a valuable component of the program and that their pupils responded well to activity reinforcers.

Punishment. Half of the respondents indicated that they felt punishment was necessary in the classroom. However, only 20 per cent of the teachers indicated that punishment was more effective than positive reinforcement. Only one of the respondents said that punishment was more effective in generating academic performance than positive reinforcement.

Other. The teachers were nearly evenly divided on the value of the interest stations. They indicated that they had no objection to the data-gatherers being in their room; and they felt that project staff and coordinators services were valuable and supportive.

Parent Questionnaire

Two-hundred and fifty-four of the parents of project pupils completed all or portions of the attached parents questionnaire

TABLE 13

PROJECT SUCCESS ENVIRONMENT
PARENTS' QUESTIONNAIRE

We would be grateful if you would answer the following questions about your child's experience in school this year. We need your opinion about Project Success Environment so that we can improve the project next year. Thank you for your help.

1. Has your child been happier in school this year than in past years? Yes_____ No_____

2. Have you been contacted more or less this year by your child's teacher or principal about discipline problems? More_____ Less_____

3. Is your child's behavior at home better or worse this year? Better___ Worse___

4. Do you think your child is doing better in his school work this year than he did in the past? Yes_____ No_____

5. Has your child expressed any bad feelings about being in a Project Success Environment class? Yes_____ No_____

6. Do you agree that children should be allowed to earn rewards in school if it helps them to work harder on their school work? Yes_____ No_____

7. Would you like to know more about the activities of Project Success Environment? Yes_____ No_____

8. What is your opinion of the project, based on what you may have seen or what your child may have told you?

(see Table 13). In general, the parents expressed a very positive attitude towards the project and indicated that the project had a beneficial effect on their children. They overwhelmingly indicated that their children were happier in school (87 per cent), that they were contacted less by the principal during the year about discipline problems (80 per cent), and that their child did better school work this year than in the past (76 per cent). The parents also agreed with the use of incentives in the school (98 per cent).

Principal Questionnaire

Two out of three project principals responded to an "open-ended" questionnaire given them in May, 1973 (see Table 14).

The principals said that there were fewer discipline referrals from the project classes. In commenting about their own opinions in dealing with problem children, both indicated that before exposure to Project Success Environment they believed in and utilized punishing consequences for inappropriate behavior. One principal indicated that he still used punishment in a few classes but both said that their awareness and use of positive techniques in dealing with children had increased. They also indicated that the success technique seemed to have a positive influence on students' willingness to engage in academic tasks in the classroom. Finally, they reported the most noticeable effects of the project as being:

(1) a good classroom atmosphere; (2) teacher involvement and better organization by the teachers; (3) happier kids; and (4) children more involved in their academic work.

TABLE 14

Project Success Environment

PRINCIPAL'S QUESTIONNAIRE

1. Has the frequency and severity of discipline problems in your school been changed by the introduction of PSE and in what ways?

2. In your dealings with problem children in your school have your ideas or actions changed in the past 3 years as a result of being familiar with the success technique?

   a. State your old point of view

   b. Any changes in this point of view?

3. Has the project, in your opinion, had any effect on students' academic performance and in what ways?

4. What effects of PSE have been the most noticeable to you?

SUMMARY YEAR III

The results obtained in Year III successfully replicated those of Year II, again demonstrating that the application of the success technique produces a more reinforcing, less punitive classroom environment with few disruptions, a high degree of task involvement, and greater academic achievement than is typically produced by traditional teaching methods. Thus, we can say with confidence that the success technique provides the inner-city teacher with both an effective classroom management system and an effective program for the acceleration of academic performance.

Data obtained in project classes during Year III from systematic observation of teacher and pupil behavior at both the elementary and middle school were compared with similar data from elementary control classes collected in Year II and from middle school control classes collected in Year III. These data were graphed and comparisons clearly show both that in Year III project pupils maintained a reduced level of disruption and a high percentage of time on assigned tasks relative to controls and that project teachers in Year III reinforced with high frequency and punished with low frequency relative to controls. As expected, then, the results for Year III are consistent with those from Year II.

Since these findings had been firmly established in Year II, during Year III two other questions concerning in-class behavior were the focus of evaluation: (1) Were the results obtained for Year I

and II caused in part by the fact that observations were frequent, occurring two to four times per week in every class? and (2) Can inexperienced teachers operate as effectively as experienced teachers?

In-class observations were made only twice each month during Year III. These data taken as a whole indicate that pupil behavior during the third year was as good as pupil behavior for Year II, particularly for the latter half of the school year, but that teacher behavior was altered somewhat by less frequent observation -- specifically, teachers reinforced only one-half as often when they were observed less frequently. However, project teachers continued to reinforce at a much higher rate than they punished and the reduction in reinforcement frequency did not cause a change in pupil behavior from Year II to Year III. The results suggest, then, that the absolute number of in-class observations may be substantially reduced without adversely affecting the effectivsness of the success technique.

The behavior of teachers and pupils in classes with experienced teachers (at least one year in the project) were compared to teacher and pupil behavior in classes with inexperienced teachers. The experienced and inexperienced teachers differed little in their delivery of reinforcement and punishment. The results with respect to pupil behavior are less clearcut. Pupils in the classes of inexperienced teachers at the elementary level did as well as or better than pupils in experienced teachers' classes on both disruptions and per cent involved. On the other hand, at the middle level, pupils in classes of experienced teachers clearly out performed pupils in the classes

of inexperienced teachers. This result may be important. Project staff have observed that it is more difficult to implement the success technique with older children. By the time a child reaches sixth grade, he has had extended experience with school. If this experience has been predominantly negative rather than positive, considerable time would be required to overcome these expectations. Furthermore, the teachers of older children may need more time and experience to apply the success technique effectively to children with extended histories of failures.

Project Success Environment was successful in promoting academic achievement in Year III of its operation just as it had been in Year II. Project pupils, in general, gained significantly more in both reading and arithmetic than a comparable group of control pupils gained over the same period of time. In addition, project pupils were also successful in achieving at least one month's gain in both reading and arithmetic for each month that they participated in the project. During Year II of the project's operation, project pupils gained an average of 6.9 months on the California Achievement Test (CAT) in reading compared to the 3.4 months gained by controls. During Year III project pupils gained 7.0 months in reading compared to the 4.6 months gained by controls. Arithmetic gains made during Year III also substantiate the findings of Year II. In Year II project pupils averaged 6.5 months gain on the arithmetic section of the CAT while control pupils gained an average of 3.9 months. During

Year III project pupils gained 7.3 months in arithmetic achievement while the controls gained only 5.3 months. Thus, the findings related to academic achievement in Year III replicated the findings of Year II and further substantiates the hypothesis that Project Success does indeed improve the academic performance of both elementary and middle school pupils.

APPENDIX

In-Class Observations: Analyses of Variance Comparing Year II Versus Year III Behaviors

In-Class Observations: Analyses Comparing Experienced Versus Inexperienced Teachers

California Achievement Tests: Analyses of Variance Comparing Project Versus Control Gains

Comprehensive Instructional Program's Diagnostic Tests: Analysis of Variance Comparing Project Versus Control Gains

In-Class Observations: Analyses of Variance

Comparing Year II vs. Year III Behaviors

Reinforcement, Elementary School

Source	df	SS	MS	F
Mean	1	48.81	48.81	
Year	1	5.32	5.32	1.94
Blocks	2	0.41	0.21	1.75
Teachers	5	13.76	2.75	
Years x Blocks	2	0.22	0.11	0.92
Years x Teachers	5	2.75	0.55	
Teachers x Blocks	10	1.17	0.12	
Teachers x Blocks x Years	10	1.20	0.12	

Reinforcement, Middle School

Source	df	SS	MS	F
Mean	1	21.44	21.44	
Years	1	1.35	1.35	7.11**
Blocks	7	3.77	0.54	9.00***
Teachers	4	0.78	0.19	
Years x Blocks	7	0.41	0.06	0.38
Years x Teachers	4	0.30	0.08	
Teachers x Blocks	28	1.59	0.06	
Teachers x Blocks x Years	28	4.38	0.16	

Punishment, Elementary School

Source	df	SS	MS	F
Mean	1	1.60	1.60	
Years	1	0.36	0.36	0.49
Blocks	2	0.20	0.10	5.00**
Teachers	5	3.67	0.73	
Years x Blocks	2	0.45	0.22	0.92
Years x Teachers	5	1.88	0.38	
Teachers x Blocks	10	0.22	0.02	
Teachers x Blocks x Years	10	2.39	0.24	

**$p < .05$

***$p < .01$

In-Class Observations: Analyses of Variance

Comparing Year II vs. Year III Behaviors

Punishment, Middle School

Source	df	SS	MS	F
Mean	1	13.20	13.20	
Years	1	0.03	0.03	0.04
Blocks	7	1.53	0.22	0.85
Teachers	4	3.23	0.81	
Blocks x Years	7	2.48	0.35	1.21
Years x Teachers	4	2.30	0.58	
Teachers x Blocks	28	7.37	0.26	
Teachers x Blocks x Years	28	8.19	0.29	

Disruptions, Elementary School

Source	df	SS	MS	F
Mean	1	4.51	4.51	
Years	1	0.08	0.08	0.18
Blocks	2	0.04	0.02	0.50
Teachers	5	2.27	0.45	
Blocks x Years	2	0.23	0.11	1.83
Years x Teachers	5	0.15	0.03	
Teachers x Blocks	10	0.38	0.04	
Teachers x Blocks x Years	10	0.63	0.06	

Disruptions, Middle School

Source	df	SS	MS	F
Mean	1	8.16	8.16	
Years	1	0.09	0.09	0.31
Blocks	7	0.24	0.03	1.50
Teachers	4	1.15	0.29	
Blocks x Years	7	0.51	0.07	2.33
Years x Teachers	4	0.19	0.05	
Teachers x Blocks	28	0.60	0.02	
Teachers x Blocks x Years	28	0.79	0.03	

In-Class Observations: Analyses of Variance

Comparing Year II vs. Year III Behaviors

Per Cent Involved, Elementary School

Source	df	SS	MS	F
Mean	1	23.68	23.68	
Years	1	0.02	0.02	2.00
Blocks	2	0.001	0.000	0.00
Teachers	5	0.05	0.01	
Years x Blocks	2	0.06	0.03	10.00***
Teachers x Years	5	0.05	0.01	
Teachers x Blocks	10	0.08	0.018	
Teachers x Blocks x Years	10	0.03	0.003	

Per Cent Involved, Middle School

Source	df	SS	MS	F
Mean	1	62.44	62.44	
Years	1	0.02	0.02	5.00*
Blocks	7	0.07	0.01	2.00
Teachers	4	0.18	0.04	
Years x Blocks	7	0.04	0.006	3.00*
Teachers x Years	4	0.01	0.003	
Teachers x Blocks	28	0.15	0.005	
Teachers x Blocks x Years	28	0.07	0.002	

*$p < .10$

**$p < .01$

In-Class Observations:

Analyses of Variance on the Effects of

Experienced Vs. Inexperienced Teachers

Reinforcement

Source	df	SS	MS	F
Experience	1	3.25	3.25	2.62
Grade	1	6.39	6.39	5.14
Experience x Grade	1	- 0.36		
Error	11	13.63	- 0.36	-0.29
Blocks	7	4.63	1.24	6.29
Experience x Blocks	7	0.41	0.66	0.55
Grade x Blocks	7	1.29	0.06	1.75
Grade x Experience x Blocks	7	1.01	0.14	1.37
Error	77	8.10	0.11	

Punishment

Source	df	SS	MS	F
Experience	1	0.39	0.39	0.62
Grade	1	3.34	3.34	5.36
Grade x Experience	1	0.49	0.49	0.78
Error	11	6.84	0.62	
Blocks	7	1.00	0.14	0.41
Experience x Blocks	7	7.24	1.04	3.00
Grade x Blocks	7	1.13	0.16	0.47
Grade x Experience x Blocks	7	2.83	0.40	1.17
Error	77	26.55	0.34	

In-Class Observations:

Analyses of Variance on the Effects of

Experienced Vs Inexperienced Teachers

Disruptions

Source	df	SS	MS	F
Experience	1	7.47	7.47	21.47
Grade	1	2.47	2.47	7.00
Grade x Experience	1	14.94	14.94	42.97
Error	11	3.82	0.35	
Blocks	7	2.05	0.29	2.52
Blocks x Experience	7	2.01	0.29	2.48
Blocks x Grades	7	1.43	0.20	1.75
Blocks x Grades x Experience	7	1.16	0.17	1.43
Error	77	8.95	0.12	

Per Cent Involved

Source	df	SS	MS	F
Experience	1	0.13	0.13	3.01
Grade	1	0.08	0.08	1.75
Grade x Experience	1	0.67	0.67	15.12
Error	11	0.49	0.04	
Blocks	7	0.65	0.01	1.01
Blocks x Experience	7	0.04	0.01	0.69
Blocks x Grades	7	0.06	0.01	0.95
Blocks x Grades x Experience	7	0.05	0.01	0.83
Error	77	0.71	0.01	

CALIFORNIA ACHIEVEMENT TESTS: ANALYSES OF VARIANCE COMPARING PROJECT VS. CONTROL GAINS

Arithmetic (Grades 2-6)

Source	SS	df	MS	F
Treatment (T)	2.44	1	2.44	8.71**
Grade (G)	6.66	4	1.67	5.96**
Sex (S)	2.76	1	2.76	9.86**
T x G	1.79	4	0.45	1.61
T x S	0.00	1	0.00	0.00
G x S	0.81	4	0.20	0.71
T x G x S	2.11	4	0.53	1.89
Within Cell	117.38	419	0.28	
Total	133.94	438		

Arithmetic (First grade)

Source	SS	df	MS	F
Treatment (T)	0.19	1	0.19	1.05
Sex (S)	0.19	1	0.19	1.05
T x S	0.00	1	0.00	
Within Cell	13.62	74	0.18	
Total	14.00	77		

**$p < .01$

CALIFORNIA ACHIEVEMENT TESTS: ANALYSES OF VARIANCE COMPARING PROJECT VS. CONTROL GAINS

Reading (Grades 2-6)

Source	SS	df	MS	F
Treatment (T)	2.44	1	2.44	10.17**
Grade (G)	3.25	4	0.81	3.38**
Sex (S)	1.95	1	1.95	8.13**
T x G	3.58	4	0.90	3.75**
T x S	0.00	1	0.00	0.00
G x S	1.95	4	0.49	2.04
T x G x S	1.95	4	0.49	2.04
Within Cell	101.30	419	0.24	
Total	116.42	438		

Reading (First grade)

Source	SS	df	MS	F
Treatment (T)	2.67	1	2.67	11.12**
Sex (S)	0.76	1	0.76	3.17
T x S	0.76	1	0.76	3.17
Within Cell	17.90	74	0.24	
Total	22.09	77		

**$p < .01$

COMPREHENSIVE INSTRUCTIONAL PROGRAM'S
DIAGNOSTIC TESTS PASSED
PROJECT VS. CONTROL

Grades 1-3

Source	SS	df	MS	F
Treatment (T)	1.26	1	1.26	0.13
Grade (G)	107.99	2	54.00	5.76**
Sex (S)	0.00	1	0.00	0.00
T x G	2.90	2	1.45	0.15
T x S	21.34	1	21.34	2.28
G x S	9.09	2	4.55	0.49
T x G x S	42.69	2	21.35	2.28
Within Cell	1,501.00	160	9.38	
Total	1,686.27	171		

**$p < .01$